



June 24, 2004

## REQUEST FOR PROPOSAL NUMBER 05-024

INFORMATION TECHNOLOGY (IT) IMPLEMENTATION  
PROJECT MANAGER

## Main Office

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12th Floor

Los Angeles, California

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**San Bernardino County:** Paul Biane, San Bernardino County • Bill Alexander, Rancho Cucamonga • Edward Burgnon, Town of Apple Valley • Lawrence Dale, Barstow • Lee Ann Garcia, Grand Terrace • Susan Longville, San Bernardino • Gary Ovitt, Ontario • Deborah Robertson, Rialto

**Ventura County:** Judy Mikels, Ventura County • Glen Becerra, Simi Valley • Carl Morehouse, San Buenaventura • Toni Young, Port Hueneme

**Orange County Transportation Authority:** Charles Smith, Orange County

**Riverside County Transportation Commission:** Robin Lowe, Hemet

**Ventura County Transportation Commission:** Bill Davis, Simi Valley

The Southern California Association of Governments (SCAG) is soliciting proposals in response to Request for Proposal (RFP) No. **05-024, Information Technology (IT) Implementation Project Manager**. The RFP is comprised of the following nine parts presented herein as attachments:

1. Scope of Work including Appendix A, Attachment A, and Attachment B
2. Proposal Information, Organization, and Content
3. Proposal Evaluation Form
4. Interview Evaluation Form
5. Contract Budget Explanatory Information
6. Debarment and Suspension Certification
7. SCAG Conflict of Interest Form
8. SCAG Vendor/Consultant Application
9. SCAG Standard Consultant Agreement

Firms wishing to respond to RFP No. **05-024** must submit their proposal to the attention of **Anthony M. Piuanno, Jr., Senior Contracts Administrator**, by **12:00 Noon (Pacific) on Monday, July 26, 2004** to the address that follows:

Southern California Association of Governments  
818 W. 7<sup>th</sup> Street, 12<sup>th</sup> Floor  
Los Angeles, CA 90017

*A pre-bid conference will be held at SCAG on Wednesday, July 7, 2004 at 10:00 a.m. at the SCAG address indicated above in Conference Room Riverside B. All prospective bidders are encouraged to attend the pre-proposal conference. However, attendance is not mandatory.*

Your proposal must be received at SCAG by the deadline specified above. Late submittals will not be accepted. Also, faxed or electronically sent proposals will not be accepted. Any proposal received after the deadline will be returned to the consultant/vendor without further consideration.

Respondents should fully address all components of this RFP, especially of the following stipulations:

- SCAG reserves the right to disqualify any and all proposals that are not submitted in accordance with the required format described in this RFP.

- Proposals must include a line item budget in the format and detail shown in Attachment 5. A similar detailed budget is required of each subcontractor whose portion of the work is \$25,000 or more.
- Any proposal exceeding the budget specified in this RFP will not be accepted.
- Funding for this project is contingent upon availability of funds at the time of contract award.
- SCAG does not reimburse respondents for the cost of proposal preparation, even in the event of RFP cancellation.
- Proposals must be printed/copied on recycled paper that has at least 20% post-consumer material. Ring binders will not be accepted, however, comb binding will be allowed.
- The Debarment and Suspension Certification must be fully completed by all parties to the proposal (prime and all subcontractors).
- The SCAG Conflict of Interest Form must be fully completed by any parties to the proposal whose portion of the overall work is valued at \$25,000 or more. All persons or firms seeking contracts valued at \$25,000 or more must complete and submit this SCAG Conflict of Interest Form to SCAG along with your contract proposal. This requirement also applies to any proposed subcontractors whose portion of the overall work is valued at \$25,000 or more.
- The three references that are required in Attachment 2 should not include any SCAG staff.
- Disadvantaged Business Enterprises (DBEs), as defined in Title 49, Part 26 of the Code of Federal Regulations, are strongly encouraged to apply.
- All offerors should ensure that they have completed and submitted a SCAG Vendor/Consultant Application, which has been provided as Attachment 8 of this proposal. Applications can also be obtained on-line at [www.scag.ca.gov](http://www.scag.ca.gov), under "News and Announcements." The application is mandatory for all primes, but optional for subcontractors. Please be advised that if you received a postcard notification for this RFP, you are on our pre-qualified vendors list and do not need to fill out an application.
- All offerors should be aware of the Insurance Requirements for Contract Award, (Attachment 9, Section 41), and must provide a Certificate of Insurance that indicates compliance with those requirements. The Certificate of Insurance must be provided by the successful offeror prior to contract award.

- If applicable, SCAG prefers that software developed, under SCAG's contract, not incorporate proprietary and/or third party software components. This does not preclude the development of deliverables, which interface with commonly-available off-the-shelf software. However, contractors must determine in advance whether SCAG already has, or is willing to procure, appropriate licenses for any proprietary and/or third party software that would be required. Impacts of enhancements and upgrades must also be provided. SCAG will require delivery of documentation and source code for all electronic intellectual property developed under a SCAG contract prior to releasing final payment to the contractor.

The maximum period of performance for this contract will be twelve (12) months but no later than June 30, 2005.

Technical questions regarding the Scope of Work may be directed to Victor Ryden at (213) 236-1822 or ryden@scag.ca.gov. Administrative questions may be directed either to Anthony M. Piunno, Jr., at (213) 236-1887 or Sam Mehta at (213) 236-1813.

Sincerely,

Heather Copp  
Chief Financial Officer

## **SCOPE OF WORK**

### **IT Implementation Project Manager**

#### **RFP No. 05-024**

#### **Background**

The Southern California Association of Governments (SCAG) is in the process of improving the level of its information technology (IT). The scope of the IT enhancement includes upgrading desktops, network, servers and related software, data storage, web site, and security.

In May 2004, a consultant team from The Integration Works Inc. (TIWI) completed an IT evaluation for SCAG with recommended alternatives for future implementation (see Attachment A and Appendix A to this Scope of Work). Option A detailed in the report was chosen as the preferred alternative. Implementation of Option A requires assistance from outside expertise. Therefore, SCAG is seeking outside assistance in developing a Request for Proposal (RFP) for the IT implementation and to act as Project Manager to oversee the implementation process.

#### **Tasks**

The consultant will fulfill the following tasks:

Task 1 Develop a RFP to acquire equipment, installation, and integration services using SCAG procurement rules/regulations and procedures:

- ✓ Determine appropriate products and services to define the project scope, requirements, and deliverables;
- ✓ Work with SCAG IT staff and SCAG Management to identify the equipment needs for different level of end-users;
- ✓ Refine recommendations included in the IT Evaluation Report as necessary. Develop implementation procedures and schedules;
- ✓ Identify tasks involved including but not limited to setting up the network, servers, desktops, laptops, peripherals, transferring accounts, enhancing the level of security and data sharing, and other necessary components as part of the implementation;
- ✓ Meetings with SCAG staff as necessary; and
- ✓ Presentations to SCAG's Management

Task 2 Develop a Migration Plan to ensure a smooth transition from existing system to new system:

- ✓ Develop necessary tasks and procedures as part of the Migration Plan;
- ✓ Develop a testing plan and procedure as part of the implementation process; and

Task 3 Develop staff training program and schedules including pre, during and post implementation:

- ✓ Identify training courses needed and related costs; and
- ✓ Develop training schedules according to the implementation schedule

- Task 4 Develop a Scope of Work for acquiring a separate Consultant service to evaluate and develop a Security Plan as part of the IT implementation.
- Task 5 Participate in the selection processes for both the Vendor (equipment, installation and integration services) and the Consultant (Security Plan):
- ✓ Review proposals from bidders; and
  - ✓ Participate in the bidder interviews and final selection process
- Task 6 Manage the IT implementation process:
- ✓ Perform as SCAG Project Manager to oversee the implementation process;
  - ✓ Coordinate with the selected Vendor and SCAG IT staff members during the implementation;
  - ✓ Coordinate with the selected Consultant to ensure a high level security of the system
  - ✓ Monitor project activities and resources to mitigate risk;
  - ✓ Implement and maintain quality assurance processes;
  - ✓ Make improvements, solve problems, and take corrective action when problems arise;
  - ✓ Participate in phase, milestone, and final project reviews;
  - ✓ Identify project documentation requirements and procedures;
  - ✓ Report to SCAG ISD Director on an on-going basis;
  - ✓ Give presentations or briefings on all aspects of the project; and
  - ✓ Ensure the success of the implementation
- Task 7 Develop policies and procedures for the implementation and a long term Strategic Plan
- ✓ Work with IT Implementation Team to develop policies and procedures for the implementation;
  - ✓ Work with SCAG Steering Committee to develop a Strategic Plan for SCAG's long term IT needs
- Task 8 Produce a report to document the entire implementation process
- ✓ Document both existing and new systems;
  - ✓ Document inventory of both existing and new equipment; and
  - ✓ Document any other information as necessary

### **Deliverables**

Anticipated deliverables include, but are not limited to, the following:

- Deliverable 1 A RFP including Scope of Work to acquire equipment, installation and integration services. The Scope includes implementation procedures and schedules, related tasks, and deliverables
- Deliverable 2 A Migration Plan with tasks, procedures, and deliverables

Deliverable 3	A staff training program
Deliverable 4	A Scope of Work to acquire consultant service to develop a Security Plan
Deliverable 5	Participation in the Vendor and Consultant selection processes
Deliverable 6	<ul style="list-style-type: none"> <li>✓ On-going verbal reports and weekly written report to SCAG ISD Director as needed;</li> <li>✓ Identifying issues and proposing resolutions;</li> <li>✓ On-going briefing as needed to SCAG Management on overall progress</li> </ul>
Deliverable 7	<ul style="list-style-type: none"> <li>✓ Policies and Procedures Manual; and</li> <li>✓ A Strategic Plan for a long term IT implementation</li> </ul>
Deliverable 8	A final report documenting the implementation process, including inventories of the equipment installed, features of each equipment, procedures of the implementation process, and cost structure

### **Schedule**

Deliverable 1	Two weeks from the date of Notice to Proceed
Deliverable 2	Three weeks from the date of Notice to Proceed
Deliverable 3	Four weeks from the date of Notice to Proceed
Deliverable 4	Five weeks from the date of Notice to Proceed
Deliverable 5	Upon completion of each RFP process
Deliverable 6	On-going
Deliverable 7	No later than June 30 2005
Deliverable 8	No later than June 30 2005

### **Cost**

The cost for the project will not exceed \$75,000.

### **Minimum Job Requirements and Skills Desired:**

Please see Attachment B to this Scope of Work for details.

## **PROPOSAL INFORMATION, ORGANIZATION AND CONTENT**

### **RFP No. 05-024**

*All proposals shall contain, at a minimum, the following information:*

#### **LETTER OF TRANSMITTAL**

- A brief statement of the respondent's understanding of the work to be done and a positive commitment to perform the work within the required time period.
- Identification of the respondent's cost and fee rate and an estimation of the level of effort required to perform the work.
- A list of the names of the individuals authorized to make representations for the respondent, their titles, addresses, and telephone numbers.

#### **TITLE PAGE**

An indication of the RFP number and project title; a list of all team members (prime and any subcontractors); local address and telephone and fax number of the prime; name and e-mail address of the prime's primary contact person; and date of the proposal. The provision of a current e-mail address for the prime's primary contact person is critical.

#### **TABLE OF CONTENTS**

A clear identification of the material, by section and page number.

#### **TECHNICAL APPROACH**

- A statement and discussion of the project objectives, concerns, and sensitive key issues.
- The technical approach for performing the study includes a detailed Scope of Work along with a program for executing the requirements and objectives of the project. A description of the technical approach to be followed for each major task or activity proposed to be performed and annotated outlines of the proposed final report (as applicable) are to be included.
- A discussion of the difficulties expected or anticipated in performing the study, along with a discussion of how the respondent proposes to overcome or mitigate against those difficulties.
- A detailed schedule for completion of the work, including performance and delivery schedules indicating phases or segments of the project, milestones, and significant events.

- A statement of the extent to which the respondent's proposed approach and Scope of Work will meet or exceed the stated objectives discussed in this RFP. Furthermore, a discussion of how the respondent would modify the project, schedule, and/or cost to better meet these objectives without exceeding the stated budget amount.

### **PROFILE OF RESPONDENT**

- A statement indicating if the firm is local or national and a summary of representative experience relevant to the work described in the Scope of Work for this RFP.
- The location and telephone number of the office from which the work is to be done.
- Identification of the individuals who will perform the work, including officers, project manager and key staff. State the time commitment and include resumes for key individuals.

### **FEE STRUCTURE/FINANCIAL FORM**

- A completed line item budget (see Attachment 5).
- A budget summary by task and by SCAG Fiscal Year. SCAG's Fiscal Year is from July 1<sup>st</sup> to June 30<sup>th</sup>.

### **REFERENCES**

A list of at least three references, including the names of contact persons within the firms.

### **SCAG STANDARD CONSULTANT AGREEMENT**

The successful respondent will be required to sign SCAG's standard consultant agreement (Attachment 9) in order to receive the contract award. Respondents must identify in their proposal any concerns or objections they would have with any of the contract terms and conditions if selected for contract award. Respondents shall propose alternative language for consideration.

CONTRACT LANGUAGE IS SUBJECT TO CHANGE PRIOR TO CONTRACT EXECUTION.

*Aside from proposal content, respondents should also be aware of the following:*

### **PERIOD OF PERFORMANCE**

It is anticipated that this will be a twelve- (12) month contract but will complete no later than June 30, 2005. Total budgeted contract amount is not to exceed \$75,000.



## **DISADVANTAGED BUSINESS ENTERPRISE (DBE)**

It is SCAG's policy to make it known that Disadvantaged Business Enterprises (DBEs), as defined in 49 Code of Federal Regulations, Part 26 are strongly encouraged to apply. Firms wishing to get credit for DBE status must be certified at the time of proposal submission. If you are a certified DBE, you must include a copy of your certification with your proposal. For those vendors/consultants located within the southern California region, certification must be either from the Department of Transportation (Caltrans), the Metropolitan Transportation Authority, the City of Los Angeles, the John Wayne Airport Authority, or the Orange County Transportation Authority.

## **PROPOSAL SUBMISSION**

The original should be clearly marked/stamped as such. **One (1) original and nine (9) copies** shall be received by SCAG by **12:00 noon (Pacific) on Monday, July 26, 2004** to the attention of **Anthony M. Piunno, Jr., Senior Contracts Administrator**, at the address that follows:

Southern California Association of Governments  
818 W. 7th Street, 12<sup>th</sup> Floor  
Los Angeles, CA 90017

**All submissions are considered a matter of public record.**

## **SELECTION PROCESS**

- Proposals will be ranked in accordance with the criteria described in Attachments 3 and 4.
- Respondents may be brought in for interviews.

## **EVALUATION OF PROPOSALS**

Proposals will be evaluated according to the following criteria, which are listed according to their relative weight in the evaluation process:

- 1. Technical Approach**
  - a. Overall Responsiveness
  - b. Related Experience
- 2. Consultant Firms**
- 3. Project Management**
  - a. Staff Qualifications
  - b. Project Organization
  - c. Reasonableness of Schedule and Budget
- 4. Costs**
- 5. Reasonableness of Schedule**
- 6. DBE Participation**

## 7. References

### **NOTIFICATION OF RIGHT TO PROTEST CONTRACT AWARD**

Offerors have the right to protest the contract award in compliance with SCAG's *Policy on Contract Award Protests*, which can be viewed online at [www.scag.ca.gov](http://www.scag.ca.gov) under "Doing Business with SCAG." A written protest must be filed with SCAG's Deputy Director within five working days after posting of the Notice of Intent to Award. No verbal protests will be accepted. The protest must be a detailed, written statement of the protest grounds and reference the RFP number and name of the designated Contracts Administrator. The protest must be submitted to SCAG's Deputy Director via both certified mail and fax using the following address and fax number:

Deputy Director  
Southern California Association of Governments  
818 W. 7<sup>th</sup> Street, 12<sup>th</sup> Floor  
Los Angeles, CA 90017  
(213) 236-1825 fax

The contract award is held up when SCAG's Deputy Director receives the protest on time. The contract may not be awarded until the protest is either withdrawn or SCAG's Deputy Director has rendered a decision.

### **BUDGET PARAMETERS**

Any proposal exceeding the budget specified in the RFP will not be accepted. The total available budget for this project is as follows:

Total budget: Not to exceed \$75,000 (for a maximum of 12 months but no later than June 30, 2005)

Applicable Work Element Numbers: 05-840.SCGS90 and 05-840.SCGS98

**SCAG is not responsible for any costs or expenses incurred in the preparation of your proposal.**

### **MISCELLANEOUS**

- Debriefings will not be provided by SCAG.
- SCAG reserves the right to reject any and all proposals submitted and to request additional information.
- The contract for this work will be awarded to the firm that the selection committee deems best qualified.
- All applicable documentation must be fully executed by each bidder.
- Every proposal submitted is considered a firm offer that must be valid for a minimum of 90 calendar days.

# PROPOSAL EVALUATION FORM

## RFP No. 05-024

Consultant Name: \_\_\_\_\_

Evaluation Criteria	Max. Possible Points	Points Earned	Comments
<b>I. TECHNICAL APPROACH</b> Project Understanding & Approach <ul style="list-style-type: none"> <li>• Tasks &amp; approach clearly described</li> <li>• Creative/innovative approach</li> <li>• Understanding of Caltrans' processes</li> <li>• Complete/thorough description of work plan</li> </ul>	<b>25</b>		
<b>II. CONSULTANT:</b> <ul style="list-style-type: none"> <li>• <u>Prime Consultant:</u></li> <li>• Familiar with cutting edge technologies</li> <li>• Capability to reallocate resources as needed to meet project schedule</li> <li>• Familiar with IT Best Practices</li> <li>• Experience with public agencies on similar projects</li> </ul>	<b>35</b>		
<b>III. PROJECT MANAGEMENT</b> Project Team: (Total hours: _____) <ul style="list-style-type: none"> <li>• Reasonable total number &amp; distribution of hours for the project</li> <li>• Qualifications of the Consultant</li> <li>• Time commitment of the Consultants</li> </ul>	<b>15</b>		
<b>IV. COSTS (Total contract cost):\$ _____</b> <ul style="list-style-type: none"> <li>• Realistic cost in relation to total hours</li> <li>• Total cost within allocated budget</li> </ul>	<b>10</b>		
<b>V. REASONABLENESS of SCHEDULE</b> <ul style="list-style-type: none"> <li>• Total time allocated for each task is realistic</li> <li>• Logical &amp; realistic timing of each task</li> </ul>	<b>10</b>		
<b>VI. DBE PARTICIPATION</b>	<b>5</b>		
<b>VII. REFERENCES</b> <ul style="list-style-type: none"> <li>• Similar projects completed on time and within budget</li> </ul>	<b>Pass/ Fail</b>		
<b>TOTAL</b>	<b>100</b>		

Name of Evaluator (print): \_\_\_\_\_

Date: \_\_\_\_\_

Signature of Evaluator: \_\_\_\_\_

Agency: \_\_\_\_\_

# INTERVIEW EVALUATION FORM

## RFP No. 05-024

Consultant Name: \_\_\_\_\_

Evaluation Criteria	Max. Possible Points	Points Earned	Comments
<b>I. TECHNICAL APPROACH</b> Project Understanding & Approach <ul style="list-style-type: none"> <li>• Tasks &amp; approach clearly described</li> <li>• Creative/innovative approach</li> <li>• Understanding of Caltrans' processes</li> <li>• Complete/thorough description of work plan</li> </ul>	<b>25</b>		
<b>II. CONSULTANT:</b> <ul style="list-style-type: none"> <li>• <u>Prime Consultant:</u></li> <li>• Familiar with cutting edge technologies</li> <li>• Capability to reallocate resources as needed to meet project schedule</li> <li>• Familiar with IT Best Practices</li> <li>• Experience with public agencies on similar projects</li> </ul>	<b>35</b>		
<b>III. PROJECT MANAGEMENT</b> <b>Project Team:</b> <b>(Total hours: _____)</b> <ul style="list-style-type: none"> <li>• Reasonable total number &amp; distribution of hours for the project</li> <li>• Qualifications of the Consultant</li> <li>• Time commitment of the Consultant</li> </ul>	<b>15</b>		
<b>IV. COSTS (Total contract cost): \$ _____</b> <ul style="list-style-type: none"> <li>• Realistic cost in relation to total hours</li> <li>• Total cost within allocated budget</li> </ul>	<b>10</b>		
<b>V. REASONABLENESS of SCHEDULE</b> <ul style="list-style-type: none"> <li>• Total time allocated for each task is realistic</li> <li>• Logical &amp; realistic timing of each task</li> </ul>	<b>10</b>		
<b>VI. DBE PARTICIPATION</b>	<b>5</b>		
<b>VII. REFERENCES</b> <ul style="list-style-type: none"> <li>• Similar projects completed on time and within budget</li> </ul>	<b>Pass/ Fail</b>		
<b>TOTAL</b>	<b>100</b>		

Name of Evaluator (print): \_\_\_\_\_

Date: \_\_\_\_\_

Signature of Evaluator: \_\_\_\_\_

Agency: \_\_\_\_\_

## CONTRACT BUDGET EXPLANATORY INFORMATION

### RFP No. 05-024

The sample line item budget on the following page reflects the most common format used to present budget or compensation information in contracts for planning services. Under this format, the consultant is compensated for its costs, plus given a fixed fee. All consultant (and subcontractor) costs must be allowable and consistent with Federal cost principles (see term VII, paragraph F of the MPO/Consultant Contract Boilerplate). Please be aware that the cost-plus-a-percentage-of-cost bid method, where the consultant's profit is a percentage of the reimbursed costs on a project, is not allowed under Federal rules.

In reviewing the sample line item budget, the following should be considered:

- Under direct labor, it is preferable to identify professional staff by both name and position. Such a format ties the level of effort to the staff actually responsible for the project.
- Direct labor and fringe benefits must be shown as separate dollar amounts.
- There are no provisions in the contract budget for contingency fees.
- The salary rate quoted should be the highest rate of compensation the staffer/position is expected to receive during the life of the contract. Expected merit or cost-of-living increases should be incorporated into the quoted rate.

**All consultants must prepare and submit a line item budget using the exact format shown on the following page, or may risk having their proposal disqualified.** Furthermore, any subcontractor whose portion of the work is \$25,000 or more must also prepare and submit their own line item budget as part of the proposal.

## SAMPLE LINE ITEM BUDGET

Consultant: Planning Horizon Services      RFP No. 05-024      Project: IT Implementation Project Manager  
 1234 Front Street, Suite 100  
 Main Street, CA 95814-2100

**DIRECT LABOR**

<u>Staff</u>	<u>Hours</u>	<u>Rate</u> <sup>1</sup>	<u>Amount</u>
A. Adams, Project Manager	100	\$30.00/hr.	\$ 3,000
B. Brown, Project Leader	1,000	\$24.00/hr.	\$ 24,000
C. Charley, Project Technician	1,000	\$20.00/hr.	\$ 20,000
Clerical support (direct charges)	250	\$12.00/hr.	\$ 3,000
<b>SUBTOTAL – DIRECT LABOR</b>	2,350		\$ 50,000

<sup>1</sup>Direct Labor rates must be traceable to current payroll records.

**OVERHEAD AND FRINGE BENEFITS**<sup>2</sup>

Direct Labor Overhead (as determined from company records)	\$ 40,000
Fringe Benefits (as determined from company records)	\$ 15,000
<b>SUBTOTAL – OVERHEAD AND FRINGE BENEFITS</b>	\$ 55,000

<sup>2</sup>Many items that are normal business practice costs and tax deductible are not allowable under Federal and State contract rules (e.g., dues, advertising, contributions, bad debts, interest expense, meals, and entertainment). For a complete listing, see 48 CFR 18.36 and OMB-87.

**TOTAL DIRECT LABOR, OVERHEAD, AND FRINGE BENEFITS** **\$105,000**

**FIXED FEE**<sup>3</sup> (rate should be consistent with other billings for similar services) **\$ 10,500**

<sup>3</sup>Fixed Fee is calculated on Direct Labor, Overhead and Fringe Benefits only, not on Subcontractors/Subconsultants.

**SUBCONTRACTORS**<sup>4</sup>

<u>Subcontractor</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
Choo-Choo Engineers	1,000	\$30.00/hr.	\$ 30,000
Overhead and Fringe (50%)			\$ 15,000
Subtotal			\$ 45,000
Fixed Fee (10%)			\$ 4,500
Total Choo-Choo Engineers			\$ 49,500

W. Water, Environmental Consultants	100	\$36.00/hr.	\$ 3,600
<b>SUBTOTAL – SUBCONTRACTORS</b>	1,100		<b>\$ 53,100</b>

<sup>4</sup>All subcontractors whose portion of the total contract exceeds \$10,000 more must break out their costs above in the same format as has been done for Choo-Choo Engineers.

**OTHER DIRECT COSTS (ODCs)**<sup>5</sup>

Graphics development	\$ 2,500
Postage	\$ 100
Printing	\$ 1,000
Telephone (long distance)	\$ 200
Travel (local)	\$ 200
Parking	\$ 75
<b>SUBTOTAL – OTHER DIRECT COSTS</b>	<b>\$ 4,075</b>

<sup>5</sup>ODCs must be fully documented and included with invoices during the contract period of performance. If contract is subject to a pre-award audit, support for these ODCs will be reviewed similar to that done for Direct Labor, Overhead, and Fringe Benefits.

**TOTAL CONTRACT COST**<sup>6</sup> **\$172,675**

<sup>6</sup>Contracts less than \$250,000 MAY require a pre-award audit; those at \$250,000 or more WILL require a pre-award audit.

## **TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29 DEBARMENT AND SUSPENSION CERTIFICATION**

**RFP No. 05-024**

All persons or firms, including subcontractors, must complete this certification and certify, under penalty of perjury, that, except as noted below, he/she or any person associated therewith in the capacity of owner, partner, director, officer, or manager:

is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;

has not been suspended debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;

does not have a proposed debarment pending; and

has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of actions.

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Signature (original signature required)

\_\_\_\_\_  
Date

# SCAG CONFLICT OF INTEREST FORM

RFP No. 05-024

## SECTION I: INSTRUCTIONS

All persons or firms seeking contracts valued at \$25,000 or more must complete and submit this SCAG Conflict of Interest Form to SCAG along with your contract proposal. This requirement also applies to any proposed subcontractors whose portion of the overall work is valued at \$25,000 or more. Failure to comply with this requirement may cause your contract proposal to be declared non-responsive.

In order to answer the questions contained in this form, you will need to review SCAG's Conflict of Interest Policy, the list of SCAG employees, and the list of SCAG's Regional Council members. All three documents can be viewed online at [www.scag.ca.gov](http://www.scag.ca.gov). The SCAG Conflict of Interest Policy is located under "Doing Business with SCAG," whereas the SCAG staff and Regional Council members lists can be found under "About SCAG."

Any questions regarding the information required to be disclosed in this form should be directed to Justine Block, SCAG Deputy Legal Counsel.

**Name of Firm:** \_\_\_\_\_

**Project Name or Description:** \_\_\_\_\_

**RFP Number:** \_\_\_\_\_

**Date Submitted:** \_\_\_\_\_

**Preparer's Name:** \_\_\_\_\_

## SECTION II: QUESTIONS

- Does your firm have any existing relationships with employees of SCAG or members of the SCAG Regional Council that could be construed as involving "conflicts of interests" (i.e., financial interests) within the meaning of the SCAG Conflict of Interest Policy, or which would give rise to a conflict if your firm becomes a recipient of a contract with SCAG?

\_\_\_\_\_ **YES**          \_\_\_\_\_ **NO**

If "yes," please list the names of those SCAG employees and/or SCAG Regional Council members and the nature of the relationship:

Name	Relationship
_____	_____
_____	_____
_____	_____
_____	_____



2. Have you or any members of your firm been an employee of SCAG or served as a member of the SCAG Regional Council within the last twelve months?

\_\_\_\_ **YES**      \_\_\_\_ **NO**

If “yes,” please list name, position, and dates of service:

<b>Name</b>	<b>Position</b>	<b>Dates of Service</b>
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. Are you or any managers, partners, or officers of your firm related by blood or marriage/domestic partnership to an employee of SCAG or member of the SCAG Regional Council that is considering your contract proposal?

\_\_\_\_ **YES**      \_\_\_\_ **NO**

If “yes,” please list name and the nature of the relationship:

<b>Name</b>	<b>Relationship</b>
_____	_____
_____	_____
_____	_____

4. In the last twelve months, have you or any members of your firm been a business partner of, employed, or been about to employ an employee of SCAG or member of the SCAG Regional Council?

\_\_\_\_ **YES**      \_\_\_\_ **NO**

If “yes,” please list name and the nature of the relationship:

<b>Name</b>	<b>Relationship</b>
_____	_____
_____	_____
_____	_____

5. Have you or any managers, partners, or officers of your firm ever given (directly or indirectly), or offered to give on behalf of another or through another person, contributions (including political contributions) or gifts to any current employee of SCAG or member of the SCAG Regional Council?

\_\_\_\_ **YES**      \_\_\_\_ **NO**

If “yes,” please list name, date gift or contribution was given/offered, and dollar value:

<b>Name</b>	<b>Date</b>	<b>Value</b>
_____	_____	_____
_____	_____	_____
_____	_____	_____

### **SECTION III: VALIDATION STATEMENT**

This Validation Statement must be completed and signed by at least one General Partner, Owner, Principal, or Officer authorized to legally commit the selected firm.

Project Name or Description: \_\_\_\_\_

RFP Number: \_\_\_\_\_

### **DECLARATION**

**I, (printed full name) \_\_\_\_\_, (Social Security Number; optional) \_\_\_\_\_ hereby declare that I am the (position or title) \_\_\_\_\_ of (firm name) \_\_\_\_\_, and that I am duly authorized to execute this Validation Statement on behalf of this entity. I hereby state that this SCAG Conflict of Interest Form dated \_\_\_\_\_ is correct and current as submitted. I acknowledge that any false, deceptive, or fraudulent statements on this Validation Statement will result in rejection of my contract proposal.**

\_\_\_\_\_  
Signature of Person Certifying for Selected Firm  
(Original signature required)

\_\_\_\_\_  
Date

### **NOTICE**

A material false statement, omission, or fraudulent inducement made in connection with this SCAG Conflict of Interest Form is sufficient cause for rejection of the contract proposal or revocation of a prior contract award.



## **SCAG Vendor/Consultant Application Materials**

**TO:** Prospective Vendors/Consultants

**SUBJECT:** Incorporation of Vendors and Consultants into SCAG's Management Information System

All vendors and consultants doing business or interested in doing business with the Southern California Association of Governments (SCAG) must have an account created in SCAG's vendor and consultant database. Including all of our vendors and consultants in the database allows for more expeditious business transactions.

To ensure that there is an account for you in the system, please complete both the enclosed SCAG Vendor/Consultant Application Form (2 pages) and the Commodity Code/Consultant Profile (3 pages). **Please be sure to check all boxes of the Commodity Code/Consultant Profile that apply to your company's particular business interests or areas of expertise.** Feel free to use the "Other" option and write in your own detailed description if none of the codes fully capture the essence of your work. For commodity code definitions, please refer to the attached Description of Potential Technical Service Needs.

Please remember to indicate your Federal Tax Identification Number (TIN). If you are not incorporated and are a 1099 company, please provide your 1099 Tax Reportable Name, as well as either your TIN or Social Security Number (SSN).

When finished, please fax **pages one through five** to Audrey Espino at (213) 236-1825, or mail your completed application materials to:

Audrey Espino  
Southern California Association of Governments  
818 W. Seventh Street, 11<sup>th</sup> Floor  
Los Angeles, CA 90017-3435

Questions regarding the application materials should be directed to Sandee Scott at (213) 236-1974 or Laura Aguilar at (213) 236-1922.

Again, if you wish to be included in SCAG's vendor and consultant database, pages **one through five** of the application materials must be completed and returned by your company.

Sincerely,

Sam Mehta  
Manager of Contracts

Attachments: SCAG Vendor/Consultant Application Form  
Commodity Code/Consultant Profile  
Description of Potential Technical Service Needs

**Main Office**  
818 West Seventh Street  
12th Floor  
Los Angeles, California  
90017-3435  
  
t(213) 236-1800  
f(213) 236-1825  
  
www.scag.ca.gov

**SCAG Vendor/Consultant Application Form**  
(please print clearly)

Name of Company: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Federal Tax Identification Number (TIN): \_\_\_\_\_

Primary Point of Contact: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

E-mail Address \_\_\_\_\_

(Please give careful consideration to the e-mail address provided. It will be used to notify your company of relevant Invitations for Bid, Requests for Proposals, etc. The email address listed should be that of someone who typically handles bids and proposals for your company.)

Company Web site Address: \_\_\_\_\_

**PAYMENT ADDRESS (IF DIFFERENT FROM MAILING ADDRESS ABOVE)**

Payment Name \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

E-mail Address \_\_\_\_\_

Does your firm require a 1099 (circle one)?                      YES      NO

If "yes " provide Social Security Number or Tax ID Number: \_\_\_\_\_

Is your firm a Disadvantaged Business Enterprise (DBE), as defined in Title 49, Part 26 of the Code of Federal Regulations (circle one)?                      YES      NO

If you are a certified DBE, please provide a copy of your certification with this completed application form. For those vendors/consultants located within the Southern California region, certification must be from either the Metropolitan Transportation Authority, the City of Los Angeles, the John Wayne Airport, or the Orange County Transportation Authority (OCTA). If you have been certified by an agency other than one of these four, we will forward your current certification to Caltrans for verification before SCAG can accept it.

If you believe you qualify as a DBE but are not certified, you may want to contact one or more of the following agencies to initiate the certification process:

**DEPT. OF TRANSPORTATION (CALTRANS)**

**DBE Certification Unit**

707 3rd Street, 1st Floor, Room 400  
West Sacramento, CA 95605  
Phone: (866) 810-6346 Fax: (916) 324-1862  
<http://www.dot.ca.gov/>

**ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)**

**Small Business Programs**

550 South Main Street  
P.O. Box 14184  
Orange, CA 92863-1584  
Phone: (714) 560-5620 Fax: (714) 560-5792  
[www.octa.net](http://www.octa.net)

**CITY OF LOS ANGELES**

**Office of Contract Compliance**

600 South Spring St., Suite 1300  
Los Angeles, CA 90014  
Phone: (213) 847-6480 Fax: (213) 847-5566  
<http://www.lacity.org/bca/>

**COUNTY OF ORANGE JOHN WAYNE AIRPORT**

3160 Airway Avenue  
Costa Mesa, CA 92626  
Phone: (949) 252-5175 Fax: (949) 252-5225  
<http://www.ocair.com/>

**LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY (MTA)**

**Small Business Diversity and Labor Compliance**

One Gateway Plaza  
Los Angeles, CA 90012  
Phone: (213) 922-2600 Fax: (213) 922-7660  
[www.mta.net](http://www.mta.net)

Should you have any questions when completing your certification application, you can contact Triaxial Management Services at (310) 537-6677. Triaxial offers free consultation support to firms interested in highway construction projects and related contracts involving Federal funding.

Name (Please Print) \_\_\_\_\_

Signature \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## **Commodity Code/Consultant Profile**

### **General Goods & Services**

<b>Check</b>	<b>NIGP</b>	<b>Description</b>
	60001	Painters
	60007	Electrical
	60008	Plumbing
	60009	Small General Contractors
	60012	Architects, Engineer
	60016	Security Systems
	60017	H V A C Contractors
	60030	Sound Systems And Electronics
	60102	Postage & Courier Services
	60102.1	Postage Machines
	60104	Memberships(Professional)
	60105	Subscriptions (Periodicals)
	60200	Computer Hardware
	60201	Computer Software
	60202	Computer Supplies
	60203	Computer Services
	60204	Telecommunications
	60233	Appliances
	60400	Audio Visual Equipment
	60401	Audio Visual Supplies
	60402	Video Equipment
	60545	Moving & Storage
	60637	Lease - Equip
	60637.1	Lease – Building
	60638	Maintenance Agreement
	60640	Copiers/Mimeo/Dupl.
	60670	Furniture--Office/Co
	60700	Typewriters & Supplies
	60701	Office Machines, Fax
	60702	Office Machine Supplies
	60710	Stationery Supplies
	60720	Paper, Fine
	60730	Trophies & Awards
	60863	Temporary Staffing
	60875	Registrations (Training & Seminars)
	61000	Office Supplies

**Consulting**

<b>Check</b>	<b>NIGP</b>	<b>Description</b>
	91804	Accounting/Auditing/Budget Consulting
	91804.1	Organizational, Financial and Performance Audits/Project Management Services
	91806	Administrative Consulting
	91806.1	Administrative Services
	91812	Modeling-Analytical Studies and Surveys
	91812.1	Survey & Data Collection
	91812.2	Travel Demand Model Improvement
	91812.3	Geographic Information System
	91812.4	Software Support for Studies and Surveys
	91812.5	Regional Data Systems
	91817	Aviation Consulting
	91826	Communications: Public Relations Consulting
	91828	Computer Hardware Consulting
	91828.1	Computer Service Center
	91829	Computer Software Consulting
	91829.1	Information Systems
	91829.2	Unix Systems Support
	91829.3	Macintosh Computer Technical Support
	91837	Economy Analysis Consulting
	91838	Education and Training Consulting
	91840	Employee Benefits Consulting
	91843	Environmental Consulting (NEPA & CEQA w/environmental impact report)
	91846	Feasibility Studies (Consulting)
	91849	Finance/Economics Consulting
	91858	Governmental Consulting
	91858.1	Government Relations
	91858.2	Institutional Analysis
	91863	Housing Consulting
	91865	Human Relations Consulting
	91866	Human Resources Consulting
	91866.1	Executive Search
	91866.2	Insurance Broker Services
	91874	Legal Consulting
	91874.1	Legislative Services
	91874.2	Alternative Dispute Resolution
	91875	Management Consulting
	91875.1	Organization & Staff Development
	91883	Organizational Development Consulting



**Consulting (cont.)**

Check	NIGP	Description
	91876	Marketing Consulting (Surveys, Public opinion polling, market analysis)
	91876.1	Social Economic Impact Analysis
	91876.2	Social Justice/Equity Analysis
	91879	Minority and Small Business Consulting
	91885	Personnel/Employment Consulting
	91892	Urban Planning Consulting
	91892.1	Growth Visioning Planning
	91893	Security/Safety Consulting
	91894	Traffic Consulting
	91895	Telecommunications Consulting
	91896	Transportation Planning Consultant
	91896.1	Highway Corridor Analysis
	91896.2	Rail Planning & Analysis
	91896.3	Transit & Non-motorized Planning & Analysis
	91896.4	Transportation Management & Coordination
	91896.5	Truck Lane Analysis/Goods Movement
	91896.6	Transportation Financing
	91896.7	Transportation & Economic Development
	91896.8	Transportation Investment Analysis
	91896.9	Transportation Modeling Support
	91896.10	Rideshare Contractor and Rideshare Software Support
	91897	Gas, Water, Electric Consulting
	91897.1	Air Quality Planning & Modeling
	91897.2	Water Supply Analysis
	90640	Graphic Design (Services)
	90640.1	Image Setting
	90640.2	Premium/Promotional Items
	96600	Printing & Related Services (Typeset/Print/Layout)
	90868	Project Management
	96115	Catering & Concessions (Vending: Mobile & Stationary)
	96115.1	Coffee & Tea Service
	96115.2	Bottled Water
	96175	Translation Services
	96618	Copying Services (Reproduction)
	91528	Mailing Services & Electronic Information (Fulfillment Services)
		Other (describe here):

**DESCRIPTION OF POTENTIAL TECHNICAL SERVICE NEEDS****Transportation Planning - 91896**

Transportation planning experience including non-motorized, transit, highways, aviation and engineering (related to transportation policy/planning), and advanced technology. Ability and experience in conducting highway and transit network analysis and modeling and drawing conclusions from the analysis. Experience in conducting analysis of new transportation technologies. Experience in transportation demand management planning.

**Institutional Analysis – 91858.2**

Understanding and experience in analyzing and developing governmental mechanisms for establishing joint powers agreements and cooperative financial arrangements, i.e., Memorandum of Understanding, mitigation contracts, mutual service agreements, etc.

**Finance/Economics Consulting - 91849**

Experience and knowledge of uniform cost estimating, financial forecasting and the ability to perform financial analysis of alternative proposals particularly in the areas of transportation, housing, commercial, industrial and public facilities.

**Surveying, Public Opinion Polling and Market Analysis - 91876**

Experience and knowledge in developing survey questionnaires, ascertaining specific survey methodologies and sample sizes, and administering public opinion, attitudinal, and behavioral characteristic surveys. Experience in cost and price, service and market demand assessment particularly in areas relating to transportation services. Experience in conducting focus groups.

**Social Economic Impact Analysis – 91876.1**

Experience in applying input/output model to analyze the social economic impacts of SCAG policies, plans, and programs.

**Social Justice/Equity Analysis – 91876.2**

Experience in assessing tax burdens, policy/plan impacts/costs/benefits and their allocations among income/ethnic/age/gender etc. groups.

**Economic Analysis Consulting – 91837**

Experience in examining and reporting on the Southern California economy and constructing/developing model to assess how business will respond to public policies.

### **Growth Management Planning – 91892.1**

Experience in generating growth management strategies, and in investigating, writing reports and working with cities and committees on this subject.

### **Growth Visioning Planning – 91892.1**

Experience in coordination and development of a growth visioning plan from a regional and sub regional perspective. Consultants must demonstrate expertise in simultaneous levels of performance with conceptual understanding of the complexities of such a plan.

### **Environmental Analysis - 91843**

Environmental planning analysis including impact analysis and the development of mitigation measures, with experience in preparing EIR/EIS for complex transportation projects and technical development proposals. Firms experienced in Air Quality Modeling & Analysis, Noise modeling & Analysis, NEPA, CEQA, Clean Water Act (CWA) section 401 & 404, Environmental Impact Report, Endangered Species Act (ESA), Aviation Planning, Air Space Study & Aviation Regulations.

### **Information Systems – 91829.1**

Experience in one or more of the following areas including design and development of complex software products, data base design, and web site design and programming.

### **Regional Data Systems – 91812.5**

Ability and experience in the following areas including development of small area (census tract and transportation analysis zones) forecasts and estimate methods, development of Geographic Information System ARC INFO topologies and related data bases from aerial photography and planning maps, development of site specific employment files. Ability to provide employer site file with employment estimates and individual code identification of all work sites.

### **Transportation Modeling Support – 91896.9**

Firms experienced in travel demand models, experienced in travel surveys, and software related to travel demand models. Firms familiar with the transportation planning process. Firms experienced with GIS interface, trip generation, trip distribution, mode choices and traffic assignment, impact analysis, GIS Arcview, Arcinfo, database management, GIS web applications, and GIS database,

### **Unix Systems Support – 91829.2**

Unix systems administrations, system programming, software development, and software maintenance.

### **Rideshare Contractor and Rideshare Software Support – 91896.10**

Consultant performs systems analysis and software development services for the Information Services Department, Rideshare Operation to maintain and enhance existing carpool matching and transit itinerary software.

### **Support Services**

#### **Assistance in Providing the Following Operational Administrative Services – 91806.1:**

Including Word Processing, Reproduction, Data Entry and Verification.

#### **Assistance in Developing Data Base Computer Programs in Support of SCAG's Management Information Systems – 91829.1**

#### **Architect/Engineering Services - 60012**

Office space planning and construction.

#### **Graphic Support Services - 90640**

Provide freelance graphic designers and production artist for purpose of staffing Graphics Unit during overload periods or when regular staff is out due to vacations, sick leave or personal days. Projects include publications, maps and presentations. Must be knowledgeable in major Macintosh Graphics programs including Illustrator, Quark and PhotoShop.

#### **Macintosh Computer Technical Support – 91829.3**

Provide technicians to troubleshoot conflicts/problems with software and hardware for (5) Macintosh workstations and a main server for the Graphics Unit. Must be able to set up new workstations, install new software and make recommendations for upgrades/enhancements. Must be available on short notice.

#### **Printing Services - 96600**

High quality offset lithography printing of publications including newsletters, posters, brochures, premium items, letterhead, envelopes, business cards, reports, presentation folders to name a few. Vendor must be able to accept digital files from the Macintosh. Computer to plate or Direct to Plate print proofing preferred (this process avoids costly film or matchprint proofing).

**Premium/Promotional Items – 90640.2**

Provide imprinting of graphics on premium items for special events or promotions. Some of these items include cups, mugs, t-shirts attached cases to name a few. Vendor must also supply product for imprinting.

**Imagesetting – 90640.1**

Vendors to provide 35 mm slide output, Iris Prints and large digital scans of artwork. Other services include Film Processing, Award Plaque production, Framing, Photo shoots-freelance photographer, Mounting/Lamination of Posters, and Royalty-free Stock Photos

**Legislative Services – 91874.1**

Experience with legislative analysis and advocacy particularly at the State and Federal level.

**Government Relations – 91858.1**

Experience working with elected officials and staff in information exchange and policy development.

**Public Communications - 91826**

Experience and knowledge in the techniques of effective public communications and designing collaborative outreach programs for specific work effort.

**Organization and Staff Development - 91883**

Services in staff development and training including managerial strategic planning, organizational analysis, individual and group coaching/interventions and onsite custom seminar planning in a variety of areas including communication, interpersonal skills, wellness, personal development, and technical skills. Experience in the public sector is desirable.

**Organization, Financial and Performance Audits/Project Management Services – 91804.1**

Experience in preparing annual audit reports and recommendations relative to organizational effectiveness. Requires knowledge of preparing reports pursuant to A-133 and Single Audit Reports to the Federal Government. Experience and knowledge with computerized accounting systems used in governmental entities. Experience in providing assistance in managing projects.

**Human Resources Planning - 91866**

Experience, particularly with public agencies, in classification compensation and benefits analysis, performance management, and related areas.

### **Legal Services – 91874.1**

Ability to provide legal services with particular emphasis on long-range planning in the areas of transportation, housing planning, and environmental review. Knowledge and experience in dealing with Federal and State laws in these areas.

General experience and knowledge in the legal operation issues in public agencies in California, including, but not limited, to personnel and contracts.

### **Alternative Dispute Resolution – 91874.2**

Provide alternative dispute resolutions services, including convening, mediation and negotiated rulemaking for public policy issues.

### **Computer Service Center – 91828.1**

Assistance in managing our Computer system. Experience with Novell and AIX systems. Computer Hardware, Software, Training, and Maintenance services.

### **Executive Search – 91866.1**

Conduct high level executive recruitment. Public sector experience required.

### **Insurance Broker Services – 91866.2**

To provide broker of record services for the agency in the areas of comprehensive health and welfare benefits, workers' compensation, property and liability, Public Officials, and Employment Practices Liability.

**CONTRACT NUMBER 05-024**

**AGREEMENT BETWEEN THE SOUTHERN CALIFORNIA ASSOCIATION OF  
GOVERNMENTS AND “CONSULTANT”**

THIS AGREEMENT, made and entered into, by and between the Southern California Association of Governments, hereinafter, referred to as SCAG, and [insert name of consultant], hereinafter referred to as “Consultant.”

***RECITALS***

WHEREAS, SCAG is a Joint Powers Agency and a federally designated Metropolitan Planning Organization for Southern California. SCAG is primarily responsible for developing the regional transportation plan and transportation improvement program for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial;

WHEREAS, pursuant to its Overall Work Program (OWP), SCAG will be engaged in many activities and projects that will require certain technical, professional, or support services from time to time;

WHEREAS, SCAG receives its primary funding from Federal and State sources that are not available until after approval of the California State Budget. Due to the State’s current budget situation, the approval of the State Budget may be substantially delayed.

WHEREAS, SCAG seeks to retain the services of Consultant to provide [insert general description of the services];

WHEREAS, Consultant agrees to perform the services required by SCAG on the terms and conditions set forth below.

***TERMS OF AGREEMENT***

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereby agree as follows:

1. Agreement Contents

This Agreement is comprised of these terms and conditions and any attached exhibits. [If the source of funding is other than CPG (e.g., FAA), add references to appropriate grants, etc., and incorporate by reference.]

2. Scope of Work

Consultant shall perform the tasks described in “Scope of Work,” Exhibit A, attached hereto and incorporated herein by this reference.

3. Project Manager

- a. Consultant shall coordinate all work pursuant to this Agreement with SCAG through the Project Manager. For purposes of this Agreement, SCAG designates the following Project Manager(s):

**[Insert name of SCAG Project Manager]**

SCAG Project Manager

(213) 236-XXXX

**[If applicable, insert name of Subregional Project Manager]**

Subregional Project Manager

(XXX) XXX-XXXX

SCAG reserves the right to change the above designation upon written notice to Consultant. The SCAG Project Manager shall review progress reports, approve invoices and determine whether the Consultant's performance under the Scope of Work has been satisfactorily completed.

- b. The Consultant designates the following Consultant Project Manager:

**[Insert name of Consultant Project Manager]**

Consultant Project Manager

(XXX) XXX-XXXX

The Consultant shall not change the designation of the Consultant Project Manager without the prior written approval of the SCAG Project Manager.

4. Schedule and Staffing

- a. Consultant shall be responsible to SCAG for performing all services described in the Scope of Work in a timely manner as set forth in the "Schedule," Exhibit B, attached hereto and incorporated herein by this reference.
- b. Services described in the Scope of Work shall be performed by Consultant's Staff, **[Name(s) of Subconsultant(s), if applicable]** listed in the "Line Item Budget," Exhibit C, attached hereto and incorporated by reference. There shall be no change in the designation of staff, Subconsultants or other members of the project team as identified in the Line Item Budget without the prior written approval of the SCAG Chief Financial Officer. No portion of the work included in this Agreement shall be subcontracted, except as provided herein, without the prior, written authorization of the SCAG Chief Financial Officer.



5. Compensation

For services rendered from the date indicated in the Notice to Proceed through June 30, 200-, Consultant shall receive the sum of \$ \_\_\_\_\_ [insert amount authorized in current OWP for this project/Work Element Number- Budget Dept. must sign-off] billed in accordance with the Line Item Budget, Exhibit C. Subject to Sections 6 (Term) and 20 (Funding Requirements) of this Agreement, the maximum amount payable under this Agreement, including all expenses, shall not exceed \$ \_\_\_\_\_ [insert total value of award]. Invoices for payment shall refer to Work Element Number 04-XXX.XXXX or as may be specified in a written notice to Consultant. This is a Cost Plus Fixed Fee Agreement.

This is a multi-year contract. Fiscal Year 2004-2005 shall have a budget for Phase I of \$ \_\_\_\_\_, and Fiscal Year 2005-2006 shall have a budget of \$ \_\_\_\_\_ for Phase II. (This does not always apply – Delete if not applicable).

6. Term

Consultant services are to commence on the date indicated in the Notice to Proceed and shall continue [for a period of XX months from the date of the Notice to Proceed] or [until “insert completion date”], hereinafter referred to as the “completion date.”

[Delete the following clause if contract will complete on or before June 30, 2005]  
Furthermore, Consultant services and reimbursements beyond June 30, 200- are subject to the inclusion and funding agency approval of this project in the SCAG 200-20-- OWP. Therefore, on June 30, 200-, the Consultant must stop all work under this Agreement until an amendment allowing the work to continue has been fully executed by both parties. In the event this project is not approved in the SCAG 200—200- OWP, this Agreement shall terminate effective June 30, 200-. Time is of the essence in the performance of services under this Agreement.

7. Assignment and Change in Ownership or Control

- a. Consultant shall not assign any interest in this Agreement, and shall not transfer the same, without the prior written consent of the SCAG Chief Financial Officer.
- b. Consultant shall notify the SCAG Chief Financial Officer in writing of any change in ownership or control of Consultant’s firm or Subconsultants. Change of ownership or control of Consultant’s firm shall require an amendment or otherwise effect this Agreement, as determined by SCAG.

8. Agreement Changes

- a. No alteration or deviation of the terms of this Agreement shall be valid unless made in writing and signed by all parties.
- b. SCAG may request, at any time, amendments to this Agreement and will notify the Consultant regarding such changes. Within ten (10) days from the date of the written notice, Consultant shall notify SCAG of the impact of such changes on the Scope of Work, Schedule and Budget. Upon agreement between the parties as to the required changes, an amendment to this Agreement shall be prepared regarding the same. Subject to pre-approval by funding agencies, such an amendment shall be valid and effective on the date of execution of the amendment.

9. Invoicing for Payment

- a. SCAG shall reimburse the Consultant in arrears, as promptly as its fiscal procedures permit, upon receipt of itemized invoices. Such reimbursements shall be based upon actual eligible costs incurred by the Consultant consistent with the Scope of Work, Schedule and Line-Item Budget.
- b. Invoices for payment shall be submitted monthly or quarterly. All Invoices shall be accompanied by a written, narrative Progress Report and shall specify the percentage of work completed.
- c. Invoices for payment for services rendered prior to June 30, 200- must be received by SCAG on or before July 31, 200-. SCAG shall not be obligated for payment of invoices received after such date. The format and content of all such invoices shall comply with Sections 10 (Invoicing Format and Content) and 13 (Allowable Costs and Documentation) of this Agreement.
- d. In the event Consultant performs work after the Notice to Proceed but before the State Budget is approved, Consultant agrees that SCAG shall have no obligation to make payment for such work until after the State Budget is approved. No interest or other penalty shall be paid by SCAG. **[Delete once State budget is approved]**

10. Invoicing Format and Content

- a. All Invoices submitted to SCAG for payment shall reference the Contract Number and Work Element Number specified in this Agreement or as may be specified in a written notice provided by SCAG, and the name of the SCAG Project Manager. All such invoices shall be directed to the attention of SCAG, Accounts Payable Department. All invoices shall be in the same format as the Line Item Budget, Exhibit C. Specific budget category detail is given below:
  - (1) Direct Labor and Fringe Benefits: All direct labor charges shall include the class of employee, rate per hour and number of hours.

- (2) Consultant and Subconsultant(s) charges: All Consultant invoices shall identify the name of the Consultant and Subconsultant(s), the percentage of work completed as categorized in the Line Item Budget, the reimbursement rate, the total amount billed, and the date and amount paid by the Consultant.
- (3) Indirect Costs: The basis for billing and billing rate shall be specified.
- (4) Direct Costs: All direct costs billed must be specifically identified and supported with original receipts, invoices or statements. Any travel and subsistence costs are limited to those rates paid to non-represented/excluded State employees under California's State Department of Personnel Administration rules, subject to changes posted at: <http://www.scag.ca.gov/business/downloads/pdf/pktguide.pdf>. Any direct costs not specifically identified in **Exhibit C, Line Item Budget**, shall not be reimbursed.
- (5) Fixed Fee: The amount of Fixed Fee billed should be equal to the proportion of the Consultant work completed, consistent with the Progress Report attached to each invoice.

**[Delete the following clause if the contract is under \$100,000]**

11. Agreement Completion Retainer

For Agreements over \$100,000, SCAG shall retain ten percent (10%) of the total compensation due under this Agreement. This retention shall be held from the final 10% of compensation due to the Consultant. This amount shall be released to the Consultant upon satisfactory completion of the Agreement, consistent with **Section 12 (Statement of Satisfaction)** of this Agreement.

12. Statement of Satisfaction

Payment for services under this Agreement is contingent upon SCAG's determination that the performance of the Consultant has been satisfactory.

13. Allowable Costs and Documentation

- a. All costs charged to this Agreement by Consultant shall be supported by properly executed payrolls, time records, invoices, and vouchers, evidencing in proper detail the nature and propriety of the charges, and shall be costs allowable as determined by Title 48, Code of Federal Regulations, Chapter 1, Part 31 (Contract Cost Principles and Procedures); Title 49, Code of Federal Regulations, Part 18; "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments and Office of Management and Budget Circular A-87;" and Caltrans Local Assistance

Procedures Manual posted at [www.dot.ca.gov/hq/LocalPrograms/lam/lapm.html](http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.html).

- b. Any costs for which payment has been made to the Consultant that are subsequently determined to be unallowable under Subsection a. are subject to repayment by Consultant to SCAG.

14. Penalty

- a. A ten percent (10%) penalty shall be imposed for each thirty (30)- day calendar period beyond the Agreement completion date, as specified in **Section 6 (Term)** of this Agreement, if the complete product, as described in the Scope of Work, is not received and approved by SCAG by the completion date. Such penalty shall be based on the total value of the Agreement.
- b. Notwithstanding the above paragraph, the Consultant may request an extension in writing, outlining the reasons for the delay and the new expected completion date. All such requests shall be submitted to the SCAG Chief Financial Officer, and if approved, shall require a written amendment to this Agreement fully executed by both parties.

15. Progress Reports

- a. The Consultant shall submit two (2) copies of monthly or quarterly Progress Reports to the attention of SCAG, Accounts Payable with the submittal of invoices, as required in **Sections 9 (Invoicing for Payment) and 10 (Invoicing Format and Content)**, describing the status of work performed as identified in the Scope of Work. Each Progress Report shall include copies of relevant meeting agendas, minutes, technical papers, draft documentation, and any completed products. The purpose of the Progress Reports is to allow SCAG to determine if the Consultant is completing the activities identified in the Scope of Work, in accordance with the agreed upon Schedule, and to afford occasions for airing difficulties or special problems encountered so solutions can be developed.
- b. The Consultant Project Manager shall meet with the SCAG Project Manager, as needed to discuss work progress.

16. Inspection of Work

The Consultant and any Subconsultants shall permit SCAG and any designee of SCAG the opportunity to review and inspect the project activities at all reasonable times during the performance period of this Agreement including review and inspection on a daily basis.

17. Written and Electronic Versions of Work Products and Work Related Materials

- a. For purposes of this Agreement, “Work Products” shall mean any deliverables, including reports, studies, modeling output, newsletters or any other written or electronic materials provided pursuant to the Scope of Work.
- b. For purposes of this Agreement, “Related Work Materials” shall mean all materials obtained, created by or provided to Consultant pursuant to this Agreement. Such materials shall include but are not limited to ideas, notes, written documents, memoranda specifications, plans, procedures, drawing descriptions, computer program data, input record data, databases, software, and source codes. Related Work Materials shall include “Intellectual Property,” including but not limited to copyrights, test data, trade secrets, and confidential information.
- c. During or upon completion of the Scope of Work, Consultant shall deliver to the SCAG Project Manager all Work Products and Related Work Materials. Such materials shall be provided in both hard copy and electronic PDF format as follows:
  - (1) Eight (8) hard copies unless otherwise specified;
  - (2) Two (2) electronic PDF copies on a formatted 3 ½ floppy disc, CD-ROM, or other medium pre-approved in writing by the SCAG Project Manager;
  - (3) Two (2) electronic copies of all software (including source code, User’s Manual and full documentation in printed and electronic form), databases, and web materials;
  - (4) Two (2) hard copies and two (2) electronic copies of all material prepared for and used in presentations, including overhead, power point and hard copy presentations;
  - (5) Copies of all photographs taken at meetings, conferences, or project sites in conjunction with the work performed pursuant to this Agreement. High-resolution tiff or jpeg files from digital cameras are preferred. Files may be sent on ZIP disk or CD-ROM. Traditional photographic prints are also acceptable; and,
  - (6) Other Work Related Materials, as requested by the SCAG Project Manager.
- d. The electronic versions of all written materials and accompanying graphic images shall, when printed or otherwise displayed, appear in the identical format, location, quality, and state of replicating in which they appear in the hard copy versions. Similarly, any graphic images accompanying the text of these written materials shall be included, in digitized form, in the electronic version in the same places in which they appear in the hard copy version.
- e. Consultant shall apply reasonable quality assurance procedures in the development of software, and shall test all software prior to delivery to SCAG. Consultant shall provide to SCAG documentation of quality assurance procedures applied, and a complete record of the software testing performed.

- f. The title pages of all written Work Products produced under this Agreement shall include the following:

“Funding: The preparation of this report was financed in part through grants from the United States Department of Transportation (DOT) - Federal Highway Administration and the Federal Transit Administration - under provisions of the Transportation Equity Act of the 21<sup>st</sup> Century. [If Applicable] Additional financial assistance was provided by the California State Department of Transportation.”

- g. All written Work Products produced under this Agreement shall further contain the following disclaimer in a separate section preceding the main body of the document:

“The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views of policies of SCAG or U.S. DOT. This report does not constitute a standard, specification or regulation.”

[Insert the following as determined applicable by SCAG Project Manager]

- h. GIS, spatial data, and databases must be accompanied by metadata conforming to the requirements specified in Exhibit D, “Metadata Requirements. (Use Doc. Number 92250 as the Exhibit)
- i. Graphics products must conform to the requirements specified in Exhibit E, “Graphics Requirements for Consultants” (Use Doc. Number 92254 as the Exhibit)
- j. Web material prepared or acquired under this Agreement shall conform to the requirements specified in Exhibit F, “Web Policies and Guidelines for Consultants.” (Use Doc. Number 92256 as the Exhibit)

## 18. Ownership, Confidentiality and Use of Work Products

- a. All Work Products and Work Related Materials including Intellectual Property, as defined in Section 17, Subsections a and b (Written and Electronic Versions of Work Products and Work Related Materials), respectively, of this Agreement, shall become the property of SCAG, and all publication rights are reserved to SCAG. The Consultant shall not copyright Work Products or Work Related Materials.
- b. Work Related Materials including Intellectual Property obtained by Consultant pursuant to a third party agreement and related to the services provided by Consultant pursuant to this Agreement, shall become the property of SCAG.
- c. Consultant shall cooperate in the execution of all documents necessary to

perfect SCAG's rights to such materials. Consultant shall notify SCAG in writing of all Intellectual Property developed or conceived in the course of its performance under this Agreement.

- d. Consultant shall assign and does hereby assign to SCAG all rights, title and interest to Intellectual Property conceived or developed by Consultant in the course of Consultant work pursuant to this Agreement. Consultant shall cooperate in the execution of all documents necessary to perfect SCAG's rights to the Intellectual Property.
- e. Subject to the California Public Records Act, all Work Related Materials including Intellectual Property shall be held confidential by Consultant. Nothing furnished to Consultant, which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential.
- f. The Consultant shall not use, release, reproduce, distribute, publish, adapt for future use or otherwise use Work Related Materials for purposes other than the performance of the Scope of Work, nor authorize others to do so, without prior written permission of SCAG Legal Counsel; nor shall such materials be disclosed to any person or entity not connected with the performance of the work. Consultant shall also safeguard such confidential materials from unauthorized disclosure, using the same standard of care to avoid disclosure, as the Consultant treats its confidential information, but in no case less than reasonable care.
- g. Upon termination of this Agreement or when requested to do so by SCAG, Consultant shall erase all copies of Work Related Materials from its computers.
- h. All equipment, including, but not limited to, computer hardware, printing and duplication equipment, multimedia equipment, software tools and programs, and upgrade packages to existing equipment, procured in whole or part by funds provided under this Agreement, are the property of SCAG. SCAG shall determine the disposition of all such property upon completion or termination of this Agreement.
- i. SCAG may utilize any Work Products or Work Related Materials provided by Consultant pursuant to this Agreement, in any manner which SCAG deems appropriate without additional compensation to Consultant.

19. Termination

**[Delete clause (a.) if contract will complete on or before June 30, 2005 – Remember to renumber your clauses]**

- a. Termination Resulting from Lack of Approval in the OWP



In the event that the work provided for under this Agreement is not approved in the SCAG 200—200- OWP or subsequent OWP Amendments, this Agreement, as provided in Section 6 (Term), is deemed to be terminated effective June 30, 200-.

b. Termination of Convenience of SCAG

SCAG may terminate this Agreement at any time by giving notice to the Consultant of such termination (including the effective termination date) at least thirty calendar days before the effective date of such termination.

In such event, all finished or unfinished documents and other materials as described in this Agreement, at the option of SCAG, become SCAG's property. If this Agreement is terminated by SCAG, as provided herein, SCAG's only obligation shall be the payment of fees and expenses incurred prior to the termination date, in accordance with the cost provisions of this Agreement.

c. Termination for Cause

If through any cause, the Consultant shall fail to fulfill in a timely and proper manner its obligations under this Agreement, or if the Consultant violates any of the covenants, terms, or stipulations of this Agreement, SCAG shall thereupon have the right to terminate the Agreement by giving not less than ten (10) working days written notice to the Consultant of the intent to terminate and specifying the effective date thereof. In such event, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, reports or other materials prepared by the Consultant under this Agreement shall, at the option of SCAG, become SCAG's property.

20. Funding Requirements

It is mutually understood between the parties that this Agreement may have been written before ascertaining the availability of funds for the total value of this Agreement, in order to avoid program and fiscal delays that would occur if the Agreement were executed after that determination was made.

SCAG reserves the option to terminate this Agreement or to amend this Agreement to reflect any reduction in funds.

21. Compliance with Laws, Rules and Regulations

Consultant shall perform all services under this Agreement in accordance and in full compliance with all applicable Federal, State and local statutes, rules, regulations, and policies and procedures and shall secure and maintain all licenses or permits required by law.



22. Independent Contractor

The Consultant agrees to provide the services set forth in this Agreement in the capacity of an independent contractor and neither the Consultant nor any of its employees or agents shall be considered to be an employee or agent of SCAG.

23. Conflict of Interest

- a. Consultant agrees to abide by the SCAG Conflict of Interest Policy as it applies to “consultants,” as defined under the SCAG Conflict of Interest Policy, posted at: [www.scag.ca.gov/business/other](http://www.scag.ca.gov/business/other).
- b. Consultant further agrees that during the term of this Agreement, it shall not accept employment from any other person, firm or corporation where such is a conflict of interest or where it is likely to lead to a conflict of interest between SCAG’s interest and the interest of such person, firm or corporation or any other third party.

24. Contingency Fees or other Unlawful Consideration

- a. The Consultant warrants, by execution of this Agreement, that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingency fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Consultant for the purpose of securing business. For breach or violation of this warranty, SCAG has the right in its sole discretion to terminate this Agreement with its only obligation to pay for the value of the work actually performed, or to deduct from the Agreement price, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingency fee.
- b. The Consultant further warrants that this Agreement was not obtained or secured through rebates, kickbacks or other unlawful consideration either promised or paid to any SCAG employee. For breach or violation of this warranty, SCAG shall have the right, in its discretion, to terminate the Agreement without liability, to pay only for the value of work performed, or to deduct from the Agreement price or otherwise recover the full amount of each rebate, kickback or other unlawful consideration.

25. Release of Information

Consultant shall not release any information to a third party or otherwise publish or utilize any information obtained or produced by it as a result of or in connection with the performance of services under this Agreement without the prior written authorization of the Chief Financial Officer.

26. Disputes

Except as otherwise provided in this Agreement, any dispute concerning a question of fact arising under this Agreement which is not disposed of by mutual agreement shall be decided through arbitration by a three (3) member panel in accordance with the rules of the American Arbitration Association.

27. Indemnity

- a. Consultant assumes all risk of injury to its employees, agents and contractors, including loss or damage to property.
- b. Consultant shall defend, indemnify and hold harmless, SCAG, its members, officers, Regional Council Board members, employees and agents from and against all claims, suits or causes of action for injury to any person or damage to any property arising out of any intentional or negligent acts or errors or omissions arising out of its performance of work under this Agreement.
- c. Consultant shall defend, indemnify and hold harmless SCAG, its members, officers, Regional Council Board Members, employees and agents against any and all claims against SCAG based upon allegations that Consultant has wrongfully utilized Intellectual Property of others in performing work pursuant to this Agreement or that SCAG has wrongfully used Intellectual Property developed by Consultant pursuant to this Agreement.
- d. The Consultant shall reimburse SCAG for any expenditure (including penalties, sanctions and reasonable attorney fees) incurred in the defense against audits, claims, suits or causes of action ultimately determined to be due to Consultant's intentional or negligent acts, errors or omissions.

28. Equal Employment Opportunity/Nondiscrimination

- a. During the performance of this Agreement, Consultant and its Subconsultants shall not unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religion creed, national origin, physical disability, medical condition, age, marital status, denial of family and medical care leave, or denial of pregnancy disability leave. Contractors and Subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment.
- b. The Consultant shall comply with Title VI of the Civil Rights Act of 1964, as amended, and with the regulations relative to Title VI, (nondiscrimination in federally-assisted programs of the United States Department of Transportation, 49 C.F.R Part 21; hereinafter referred to as "DOT regulations"), which are herein incorporated by reference and made a part of this Agreement. During the

performance of this Agreement, the Consultant, for itself, its assignees and successors in interest, agrees as follows:

- (1) Nondiscrimination: The Consultant, with regard to the work performed by it during the Agreement shall not discriminate on the grounds of race, religion, color, sex, sexual orientation, age, or national origin in the selection or retention of Subconsultants, including procurement of materials and leases of equipment. The Consultant shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the DOT regulations, including employment practices when the Agreement covers a program of which the goal is employment.
- (2) Solicitations for Subconsultants, Including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiations made by the Consultant for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential Subconsultant or supplier shall be notified by the Consultant of the Consultant's obligations under this Agreement and the DOT regulations relative to nondiscrimination.
- (3) Information and Reports: The Consultant shall provide all information and reports required by the DOT regulations and directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by SCAG or any duly authorized representative of the State or Federal Government to be pertinent to ascertaining compliance with such regulations or directives. Where any information required of a Consultant is in the exclusive possession of another who fails or refuses to furnish this information, the Consultant shall so certify to SCAG or any duly authorized representative of the State or Federal Government and shall set forth what efforts it has made to obtain the information.
- (4) Sanctions for Noncompliance: In the event of the Consultant's noncompliance with the nondiscrimination provisions of this Agreement, SCAG shall impose such sanctions as it or any State or Federal funding agency may determine to be appropriate, including, but not limited to:
  - (a) Withholding of payments to the Consultant under this Agreement until the Consultant complies, and/or
  - (b) Cancellation, termination or suspension of the Agreement, in whole or in part
- (5) Incorporation of Provisions: Any subcontract entered into as a result of this Agreement shall contain all of the provisions of 1 through 4 of this section. The Consultant shall take such action with respect to any subcontract or procurement as SCAG may direct as a means of enforcing such provisions

including sanctions for noncompliance.

29. Disadvantaged Business Enterprise (DBE)

- a. It is the policy of SCAG, Caltrans, and the U.S. Department of Transportation, that the Disadvantaged Business Enterprises (DBEs), as defined in 49 CFR Part 26, shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds provided under this Agreement.
- b. The Consultant shall ensure that DBEs, as defined in 49 CFR, Part 26, have the maximum opportunity to participate in the performance of this Agreement. In this regard, the Consultant shall take all necessary and reasonable steps to ensure that DBEs have the maximum opportunity to compete for and to perform subcontracts arising out of this Agreement. Failure to carry out the requirements of this paragraph shall constitute a breach of contract and may result in termination of this Agreement or such other remedy SCAG may deem appropriate.
- c. During the period of this Agreement, the Consultant shall maintain records of all applicable subcontracts advertised and entered into germane to this Agreement, documenting the opportunity given to DBEs to participate in this Agreement, actual DBE participation, and records of materials purchased from DBE suppliers. Such documentation shall show the name and business address of each DBE Subconsultant or vendor, and the total dollar amount actually paid each DBE Subconsultant or vendor. Upon completion of the Agreement, a summary of these records shall be prepared and certified as correct by the Consultant, and shall be furnished to SCAG.

30. Records Retention and Audits

- a. The Consultant and its Subconsultants shall maintain all documents, books, and records pertinent to this Agreement during the period of performance of this Agreement and for three years from the date that SCAG makes final payment to the Consultant and all other pending matters are closed.
- b. At any time during normal business hours, and as often as SCAG, the California Department of Transportation, the Federal Aviation Administration, the Department of Labor, the Comptroller General of the United States, or other State and Federal agencies, or any duly authorized representative may deem necessary, the Consultant shall make available for examination all of its records with respect to all matters covered by this Agreement for purposes of audit, examination, or to make copies or transcripts of such records, including, but not limited to, contracts, invoices, payrolls, personnel records, conditions of employment and other records relating to all matters covered by this Agreement. Such records and access to the facilities and premises of the

Consultant shall be made available during the period of performance of this Agreement, and for three years from the date that SCAG makes final payment to the Contractor and all other pending matters are closed.

31. Clean Air Act/Clean Water Act Requirements

The Consultant, in carrying out the requirements of this Agreement, shall comply with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 U.S.C 1857(h), Section 508 of the Clean Water Act (33 U.S.C 1368)), Presidential Executive Order 11738, and Environmental Protection Agency regulations (40 C.F.R. Part 15).

32. Lobbying

The Consultant certifies, to the best of her or his knowledge and belief, that:

- a. No Federally-appropriated funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any Federal agency, the United States Congress, an officer or employee of Congress, or any Member of Congress in connection with the award of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- b. If any funds other than Federally-appropriated funds have been paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the Consultant shall complete and submit Federal Standard Form-LL, "Disclosure Form to Report Lobbying," in accordance with its instructions. This form will be made available by SCAG Legal Counsel upon request.
- c. This certification is a material representation of fact, upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction, as imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
- d. By signing this document, the Consultant also agrees that she or he shall require that the language of this certification be included in all lower tier subcontracts which exceed \$100,000, and that all such Subconsultants shall certify and disclose accordingly.

### 33. Stop Work

- a. SCAG may, at any time, by written Stop Work Order to the Consultant, require the Consultant to stop all, or any part, of the work called for by this Agreement for a period up to 90 days after the Stop Work Order is delivered to the Consultant, and for any further period to which the parties may agree. The Stop Work Order shall be specifically identified as such and shall indicate it is issued under this clause. Upon receipt of the Stop Work Order, the Consultant shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the Stop Work Order during the period of work stoppage. Within 90 days after a Stop Work Order is delivered to the Consultant, or within any extension of that period to which the parties shall have agreed, SCAG shall either:
  - (1) Cancel the Stop Work Order; or
  - (2) Terminate the work covered by the Stop Work Order as provided for in the termination for convenience clause of this Agreement.
- b. If a Stop Work Order is issued under this section, SCAG shall make an equitable adjustment in the delivery schedule, the contract price, or both, and the Agreement shall be modified, in writing, accordingly.

### 34. Flow-Down Provisions

Any subcontract entered into as a result of this Agreement shall contain the following provisions of this Agreement: Sections 9 (Invoicing for Payment); 10 (Invoicing Format and Content); 13 (Allowable Costs and Documentation); 15 (Progress Reports); 16 (Inspection of Work); 17 (Written and Electronic Version of Work Products and Work Related Materials); 18 (Ownership, Confidentiality and Use of Work Products); 19 (Termination); 20 (Funding Requirements); 21 (Compliance with Laws, Rules, and Regulations); 22 (Independent Contractor); 23 (Conflict of Interest); 24 (Contingency Fees or other Unlawful Consideration); 25 (Release of Information); 26 (Disputes); 27 (Indemnity); 28 (Equal Employment Opportunity/Nondiscrimination); 29 (Disadvantaged Business Enterprise); 30 (Records Retention and Audits); 31 (Clean Air Act/Clean Water Act Requirements); and 32 (Lobbying).

**[Insert the following subsection only if source of funding for the contract is other than CPG.]** This Agreement is funded in part, by the [insert name of Grant Agreement, e.g., Federal Aviation Administration (FAA), under Agreement Number (DTFA08-02-C-21452) to conduct metropolitan plan study, Phase 1 (Regional Airspace Study and Continuous Aviation System Planning including Regional Transportation Plan Update and Implementation) between SCAG and the FAA, ("Grant Agreement")], attached as Exhibit D and incorporated by reference. Consultant shall require Subconsultants and third party (sub-tier) consultants to

carry out the purposes and provisions of the Grant Agreement.)

35. Notice

Any notice or notices required or permitted to be given pursuant to this Agreement may be personally served on the other party by the party giving such notice, or may be served by certified mail, return receipt requested, to the following addresses:

**Heather Copp**  
**Chief Financial Officer**  
Southern California Association of Governments  
818 West Seventh Street, 12<sup>th</sup> Floor  
Los Angeles, California 90017-3435

Phone: (213) 236-1804  
FAX: (213) 236-1825

**[Insert Consultant Contact Name]**

**[Title of Contact Person]**

**[Company]**

**[Address]**

**[City, State Zip Code]**

**Phone:**

**FAX:**

36. Severability

If any provision of this Agreement is held to be illegal, invalid, or unenforceable, in whole or in part, such provision shall be modified to the minimum extent necessary to make it legal, valid and unenforceable, and the legality, validity, and enforceability of the remaining provisions shall not be affected thereby.

37. Jurisdiction and Venue

This Agreement shall be deemed an Agreement under the laws of the State of California, and for all purposes shall be interpreted in accordance with such laws. Both parties hereby agree and consent to the exclusive jurisdiction of the courts of the State of California and that the venue of any action brought thereunder shall be Los Angeles County, California.

38. Waiver

No delay or failure by either Party to exercise or enforce at any time any right or provision of this Agreement shall be considered a waiver thereof of such Party's right thereafter to exercise or enforce each and every right and provision of this



Agreement. A Waiver to be valid shall be in writing but need not be supported by consideration. No single waiver shall constitute a continuing or subsequent waiver.

39. Entire Agreement

This writing contains the entire agreement of the Parties relating to the subject matter hereof, and the Parties have made no agreements, representations or warranties relating to the subject matter hereof which are not set forth herein. Except as provided herein, this Agreement may not be modified or altered without formal written amendment thereto.

40. Guaranty and Warranty

Consultant warrants and guarantees that the work shall be performed and completed in accordance with generally accepted industry standards, practices, and principles applicable to the work. Among other things and without waiver of SCAG's other rights or remedies, SCAG may require Consultant to re-perform any of said services which were not performed in accordance with these standards at no cost to SCAG.

41. Insurance

Consultant shall procure and maintain for the duration of this Agreement insurance against claims for injuries to persons, or damages to property, which may arise from or in connection with the performance of the work hereunder by Consultant, its subcontracts, agents, representatives, or employees.

a. Minimum Scope of Insurance – Coverage shall be at least as broad as:

- (1) Insurance Services Office Commercial General Liability coverage (Occurrence form CG0001).
- (2) Insurance Services Office form number CA0001 (Ed. 1/87) covering Automobile Liability, code 1 (any auto).
- (3) Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.
- (4) Professional Liability (Errors and Omissions) insurance appropriate to the Consultant's profession.

b. Minimum Limits of Insurance – Consultant shall maintain limits no less than:

- (1) General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate



limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.

- (2) Automobile Liability: Including contractual liability insuring owned, non-owned, hired and all vehicles by Consultant with a combined single limit of not less than \$1,000,000 applicable to bodily injury, sickness or death, and loss of or damage to property in any one occurrence.
  - (3) Workers' Compensation Liability: Including Occupational Diseases in accordance with California Law and Employers' Liability Insurance with a limit of not less than \$1,000,000 each accident.
  - (4) Professional Liability Insurance: With limits of not less than \$1,000,000 per claim.
- c. Other Insurance Provisions – The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:
- (1) SCAG, its subsidiaries, officials and employees are to be covered as additional insureds as respects liability arising out of the activities performed by or on behalf of Consultant, products and completed operations of Consultant; premises owned, occupied or used by Consultant; or automobiles owned leased, hired or borrowed by Consultant. The coverage shall contain no special limitations on the scope of protection afforded to SCAG, its members, subsidiaries, officials and employees.
  - (2) For any claims related to this project, Consultants insurance coverage shall be primary insurance as respects SCAG, its members, subsidiaries, officials and employees. Any insurance or self-insurance maintained by SCAG shall be excess of Consultant's insurance and shall not contribute with it.
  - (3) Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to SCAG, its members, subsidiaries, officials and employees.
  - (4) Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
  - (5) Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, and has been given to SCAG.
  - (6) Workers' Compensation and Employer's Liability policies shall contain the inclusion of SCAG's, its members, subsidiaries, officials and employees as

additional insured, or provide a waiver of subrogation.

- d. Deductibles and Self-Insured Retentions – Any deductibles or self-insured retentions in amounts over \$10,000 must be declared to and approved by SCAG.
- e. Acceptability of Insurers – Insurance is to be placed with California admitted insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise approved by SCAG.
- f. Verification of Coverage – Consultant shall furnish SCAG with original endorsements and certificates of insurance evidencing coverage required by this clause. All documents are to be signed by a person authorized by that insurer to bind coverage on its behalf. All documents are to be received and approved by SCAG before work commences. As an alternative, Consultant may provide complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications.

42. Force Majeure

Neither SCAG nor Consultant shall be liable or deemed to be in default for any delay or failure in performance under this Agreement or interruption of services resulting, directly or indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, or any other similar cause beyond the reasonable control of SCAG or Consultant.

IN WITNESS WHEREOF, The Southern California Association of Governments and [insert Name of Consultant] have executed this Agreement.

Southern California Association of Governments

[Insert Name of Consultant]

By \_\_\_\_\_  
Heather Copp  
Chief Financial Officer

By \_\_\_\_\_  
[Insert Name of Person]  
[Title of Person – Authorized  
to Bind Agency]

Date \_\_\_\_\_

Date \_\_\_\_\_

Approved as to Legal Form:

By \_\_\_\_\_

Karen Tachiki  
Chief Legal Counsel

**EXHIBIT A**

**SCOPE OF WORK**

**EXHIBIT B**

**SCHEDULE**

**EXHIBIT C**

**LINE ITEM BUDGET**

**EXHIBIT D**

**METADATA REQUIREMENTS**

## **Spatial Data/Metadata Requirements**

**The following are fields required for documentation of data received by SCAG. The metadata documentation follows that presented in FGDC-STD-001-1998 “Content Standard for Digital Geospatial Metadata”, commonly referred to as the FGDC standard.**

**A number of these metadata fields require prior consideration between SCAG and contractors before data acquisition or collection begins. These are:**

### **1.4.1 Progress**

SCAG requires that a contractor indicate the anticipated progress of all datasets upon project completion. Explanations should be prepared for any datasets that are not complete at the close of the contract.

### **1.7 Access Constraints**

Any anticipated constraints on access to datasets need to be documented and agreed to by SCAG before data collection or acquisition begins. Any licensing requirements should be spelled out here.

### **1.8 Use Constraints**

Any anticipated constraints on use of data sets need to be documented and agreed to by SCAG before data collection or acquisition begins. Any licensing requirements should be spelled out here.

### **1.12.2 Security Classification**

Any anticipated sensitivities of the data set or security implications of the dataset need to be documented and agreed to by SCAG before data collection or acquisition begins. This applies to general sensitivity issues and not strictly national security classification systems. For example, SCAG needs to know that the data being collected is sensitive to the extent that it should not be displayed at large scales on the Internet.

### **1.13 Native Data Set Environment**

The data set format needs to be documented and agreed to by SCAG before data collection or acquisition begins. SCAG works primarily with standard ESRI formats like shapes and coverages.

### **2.1.2.1 Attribute Accuracy Value**

The accuracy of attributes needs to be documented and agreed to by SCAG before data collection or acquisition begins. For example, if elevations are being collected SCAG needs to be informed that they will be plus or minus 50 feet.



#### **2.4.1.2.1 Horizontal Positional Accuracy Value**

The horizontal positional accuracy needs to be documented and agreed to by SCAG before data collection or acquisition begins. For example, if point locations are being recorded from a GPS receiver, SCAG needs to be aware that 90% of the points are within 30 meters of true ground position.

#### **2.5.1.4.1 Source Currentness Reference**

SCAG needs to be informed if the currentness reference is not ground condition. The currentness reference is the bases on which the time period content is determined. The date of the data set can be based on a number of things like publication date, release date, or delivery date. An example would be the 2000 Thomas Brothers centerline file. The date usually associated with this file is the year indicated on the “Thomas Guide” that the digital data was used to create. It is much more likely that the data actually represents some time in 1999, since the books came out in time for Christmas 1999. The currentness reference in this case could be Thomas Guide title date.

#### **4.1 Horizontal Coordinate System Definition**

SCAG needs to know and agree to the data projection. It would be very unusual to accept a projection that does not have standard parameters. Data will most often be required in North American Datum 1983 UTM zone 11. The parameters for this projection are:

Projection: Transverse Mercator

Parameters

False Easting 500000.0000000

False Northing: 0.0000000

Central Meridian: -117.0000000

Scale\_Factor: 0.999600000

Latitude of Origin: 0

Linear Unit: Meter (1.000)

Geographic Coordinate System:

Name: GCS\_North\_American\_1983

Angular Unit: Degree (0.017453292519943295)

Prime Meridian: Greenwich (0.000000000000)

Datum: D\_North\_American\_1983

Spheroid: GRS\_1980

Semimajor Axis: 6378137.000000000000

Semiminor Axis: 6356752.314140356100

Inverse Flattening: 298.2572221010000200

SCAG also requires all codes used in any spatial data set to be provided in an agreed upon electronic format.

The FGDC standard for data documentation is a very complete standard covering every kind of spatial data. What follows are the items for metadata documentation in datasets typically received at SCAG. Generally SCAG receives data pertaining to phenomena on the earth's surface in a vector form of points, lines, or polygons. Other types of data, which might include such forms as raster data and imagery data or some theme as subsurface water depth, would require reconsideration of some of the specific items required. Generally the types of metadata information outlined at the first and second levels below are required of all data.

The outline numbers are from FGDC-STD-001-1998 "Content Standard for Digital Geospatial Metadata". The actual fields that require in input are underlined

## **1. Identification Information**

### **1.1 Citation (See 8.)**

### **1.2 Description**

**1.2.1 Abstract** – Brief narrative summary of the dataset (Required)

**1.2.2 Purpose** - Intentions for which the dataset was acquired/developed (Required)

**1.2.3 Supplemental Information** – Any information not elsewhere documented that will give insight into the dataset. (Optional)

### **1.3 Time Period of Content (See 9.)**

### **1.4 Status**

**1.4.1 Progress** – The state of the data set. An explanation is required if the final progress for a dataset received due to a contract is not "Complete". (Required).

**1.4.2 Update Frequency** – The frequency with which changes to the dataset are made (Required).

### **1.5 Spatial Domain**

#### **1.5.1 Bounding Coordinates**

**1.5.1.1 West** - Most Western boundary (Required – SCAG will accept in Projection Units if a standard projection is used).

**1.5.1.2 East** - Most Eastern boundary (Required – SCAG will accept in Projection Units if a standard projection is used).

**1.5.1.3 North** – Most Northern boundary (Required – SCAG will accept in Projection Units if a standard projection is used).

**1.5.1.4 South** – Most Southern boundary (Required - – SCAG will accept in Projection Units if a standard projection used).

## **1.6 Keywords**

### **1.6.1 Theme**

**1.6.1.2 Theme keyword/s** – Keyword or words describing theme (Required)

### **1.6.2 Place**

**1.6.2.1 Place keyword/s** – Keyword or words describing location (Required)

**1.7 Access Constraints** – Restrictions and legal prerequisites for accessing the dataset (Required)

**1.8 Use Constraints** – Restrictions and legal prerequisites for using the data after access is granted (Required).

## **1.9 Point of Contact (See 10.)**

## **1.12 Security Information**

**1.12.2 Security Classification** – Any restrictions imposed by national security concerns. Must be agreed upon before data acquisition. SCAG will accept non-traditional evaluations of confidentiality that a contractor may deem appropriate. A dataset for example may be classified “may be inappropriate for display on Internet at large scales”. These evaluations are for security concerns not data quality concerns. (Required)

**1.13 Native Data Set Environment** – Software and format in the producers processing environment. The contractor is considered the producer even if data has been acquired from another source. (Required)

## **2. Data Quality Information**

### **2.1 Attribute Accuracy**

**2.1.1 Attribute Accuracy Report** – an explanation of the accuracy of assigned values in the data set (if applicable)

## **2.1.2 Quantitative Attribute Accuracy Assessment**

**2.1.2.1 Attribute Accuracy Value** – an estimate of the accuracy assigned values in the data set (if applicable)

**2.1.2.2 Attribute Accuracy Explanation** – and identification of the test that produced the Attribute Accuracy Value (if applicable)

## **2.4 Positional Accuracy**

### **2.4.1 Horizontal Positional Accuracy**

**2.4.1.1 Horizontal Positional Accuracy Report** – an explanation of the accuracy of the horizontal coordinate measurements (if applicable)

#### **2.4.1.2 Quantitative Horizontal Positional Accuracy Assessment**

**2.4.1.2.1 Horizontal Positional Accuracy Value** – numeric value assigned to summarize the accuracy of the horizontal coordinate measurements (Required)

**2.4.1.2.2 Horizontal Positional Accuracy Explanation** – the test that produced the Horizontal Positional Accuracy Value (if applicable)

## **2.5 Lineage**

### **2.5.1 Source Information**

#### **2.5.1.1 Source Citation (See 8.)**

**2.5.1.2 Source Scale Denominator** – the denominator of the representative fraction of the source map or the scale representative of the accuracy of the digital product (e.g. a scale of 1:24,000 is 24000) (Required)

**2.5.1.3 Type of Source Media** – media of the source dataset (if applicable - digitized data would have the Type of Source Media reported as “paper”)

#### **2.5.1.4 Source Time Period of Content (See 9.)**

**2.5.1.4.1 Source Currentness Reference** – The basis on which the time period content (9.1.1 Calendar Data, or 9.3.1 Beginning Date/9.3.3 Ending Date) is determined. Most acceptable is “ground condition”. This feature/condition existed on the ground in the time period specified. Other currentness references

(publication date, date acquired from agency,) need to be discussed with SCAG. (Required).

### **3. Spatial Data Organization Information**

**3.1 Indirect Spatial Reference** – name of means through which locations are referenced in the dataset. Pertains to mechanisms like geocoding addresses or linear referencing systems. (if applicable)

**3.2 Direct Spatial Reference** – type of object used to represent space in the data set (e.g. Point, Line, Polygon) (Required)

### **4. Spatial Reference Information**

#### **4.1 Horizontal Coordinate System Definition**

##### **4.1.1 Geographic**

**4.1.1.3 Geographic Coordinate Units** (Required if geographic)

##### **4.1.2 Planar**

##### **4.1.2.1 Map projection**

**4.1.2.1.1 Map Projection Name** (Required if planar system, if standard projection is used place it here. Most acceptable is NAD\_1983\_UTM\_Zone\_11N.)

**4.1.2.2 Grid Coordinate System** (Required if planar system and not standard)

##### **4.1.2.4 Planar Coordinate Information**

**4.1.2.4.4 Planar Distance Units** (Required if planar system and not standard)

##### **4.1.4 Geodetic Model**

**4.1.4.1 Horizontal Datum Name** (Required if not standard)

**4.1.4.2 Ellipsoid Name** (Required if not standard)

## 5. Entity and Attribute Information

### 5.1 Detailed Description

#### 5.1.1 Entity Type (for each)

**5.1.1.1 Entity Type Label** – the name of the entity type (e.g. integer, text)(Required)

**5.1.1.2 Entity Type Definition** – the definition of the entity type (if necessary)

**5.1.1.3 Entity Type Definition Source** – the source of the definition (if necessary)

#### 5.1.2 Attribute (for each)

**5.1.2.1 Attribute Label** – Name in file (Required for non-standard attributes. Standard attributes are those produced by software. For example, a polygon coverage produced by ESRI software will have such fields as perimeter and area that are created and maintained by the system)

**5.1.2.2 Attribute Definition** – What the attribute represents (Required for non-standard attributes)

**5.1.2.3 Attribute Definition Source** – Authority of the field definition. This could be a citation to a document or the group responsible for the field. (e.g. The U.S. Census Bureau is the authority for the definition of the field P1 which is Population) (Required for non-standard attributes)

#### 5.1.2.4 Attribute Domain Values

##### 5.1.2.4.2 Range Domain

**5.1.2.4.2.3 Attribute Units of Measure** – the standard of measurement (Required if range)

**5.1.2.4.2.4 Attribute Measurement Resolution** – the smallest unit to which an attribute value is measured (if applicable)

##### 5.1.2.4.3 Codeset Domain Codes – must be supplied in a digital file

**5.1.2.4.3.1 Codeset Name** (Required if codeset)

**5.1.2.4.3.2 Codeset Source** (Required if codeset)

#### **5.1.2.7 Attribute Value Accuracy Information**

**5.1.2.7.1 Attribute Value Accuracy** – an estimate of the accuracy of attribute values (Required if applicable)

**5.1.2.7.2 Attribute Value Accuracy Explanation** – how the Attribute Value Accuracy was derived (Required if applicable)

**5.1.2.8 Attribute Measurement Frequency** – the frequency that the measurements are added (Required if applicable)

### **7. Metadata Reference Information**

**7.1 Metadata Date** – the date the metadata was created or last updated (Required)

**7.4 Metadata Contact** – the party responsible for the metadata information. (Required)

### **8. Citation Information**

**8.1 Originator** – name of organization or individual that developed the dataset (Required).

**8.2 Publication Date** – the date the data was published or made available for release (Required).

**8.9 Other Citation Details** (Optional)

### **9. Time Period of Content**

**9.1 Single Date/Time** – the year or portion of year (e.g. month) for which the data corresponds to the Currentness Reference. SCAG does not anticipate that time will be a factor in metadata for information typically collected for this agency.

**9.1.1 Calendar Date** – the year and optionally month (Required if not reported within 9.3 Range of Dates/Times)

**9.3 Range of Dates/Times** – the range of years or portion of years (e.g. month) for which the data corresponds to the Currentness Reference. SCAG does not anticipate that time will be a factor in metadata for information typically collected for this agency.

**9.3.1 Beginning Date** – the first year and optionally month (Required if not reported as 9.1.1 Calendar Date)

**9.3.3 Ending Date** – the last year and optionally month (Required if not reported as 9.1.1 Calendar Date)

## **10. Contact Information**

### **10.1 Contact person primary**

**10.1.1 Contact Person** (Required if person is best mechanism to report contact)

**10.1.2 Contact Organization** (Required if person is best mechanism to report contact)

**10.2 Contact Organization** (Required if not reported as 10.1 Contact person primary)

**10.5 Contact Voice Phone** (Required)

**10.7 Contact Fax Phone** (Optional)

**10.8 Contact E-mail** (If available)

**10.10 Contact Instructions** – supplemental information, which might include web sites and other mechanisms for contact (Optional).



**EXHIBIT E**

**GRAPHICS REQUIREMENTS  
FOR  
CONSULTANTS**

## **Graphics Requirements for Consultant Projects**

### **For the Web**

#### **Please provide in the following:**

- All Documents in PDF format
- All Graphics in JPEG format, 72 dpi, RGB mode for photos
- All Logos in EPS format **and** GIF or JPEG format for use on the web
- Include all original high-resolution graphics and fonts that were used to create the web page or layout
- If in HTML format, provide HTML documents and all supporting GIFs and JPEGs

### **For Print Projects**

#### **Documents**

Acceptable formats:

Save in Microsoft WORD 98 or QUARK EXPRESS 4.1 or later (Quark files for the MAC are preferred)

- Be sure to include all fonts and imported JPEG, TIFF and EPS files
- Provide a PDF of the final document layout
- Provide a hard copy of the document in color
- Be sure to include all fonts – printer and system fonts

#### **Photos Used in the Document**

Be sure to provide high-resolution version of all photos for print use.

- Color photos – 300 dpi, CMYK scans in TIFF format or high resolution JPEGs
- Black and white 300 dpi Grayscale scans
- Include all composited photo collages or graphics such as layered ADOBE PHOTOSHOP (.psd) files
- Photo credits: who took the photos, the location, appropriate captions

#### **Charts/Graphs**

- Be sure to include all linked files when providing EXCEL files.

#### **Logos and Other Graphics**

- EPS files are preferred. When EPS is unavailable, high-resolution TIFF files may also be used.
- Include postal information such as bar codes, etc.

#### **Photos of Meetings/Events/Location Shot**

- We request that consultants provide SCAG with copies of all photos taken at subregional meetings, conferences, or project sites. High-resolution TIFF or JPEG files from a digital camera are preferred. Files may be sent on ZIP disc or CD-ROM. Traditional photo prints and high-resolution scans are also acceptable.

**Media Preferred (if not sent via e-mail)**

- ZIP discs
- CD-ROM (formatted for MAC and PC)

**Documentation**

- Be sure to include a directory list of the files
- Be sure to provide specific directions about printing the project including quantity, size, paper stock (weight and color), color (Pantone, CMYK, B/W), one or two –sided printing, varnish, bleed, trim, and binding
- Be sure to include your contact information (telephone, fax and e-mail). We want to be able to contact you if we have specific questions or are missing files. Please provide us with deadline and delivery instructions.

**Files may also be e-mailed to:** [hart@scag.ca.gov](mailto:hart@scag.ca.gov) Attn: Carolyn Hart. Please make sure that e-mailed files are not larger than two megabytes. Files may also be ZIPPED or compressed using Stuffit or other compression software.

**EXHIBIT F**

**WEB POLICIES & GUIDELINES  
FOR  
CONSULTANTS**

## **Web Policies and Guidelines for Consultants**

### **1. Tools and Requirements**

Web staff uses these tools and applications for development and maintenance of SCAG's site:

- Macromedia Dreamweaver 4+ or Dreamweaver Ultradev 4
- Adobe Photoshop6+
- JavaScript
- ColdFusion 5 (used for developing database-driven Web sites or applications)
- ASP
- Perl
- Cascading style sheets
- SCAG uses IIS4.0

### **2. Web Development Process**

Document preparation:

- All documents should be converted to PDF and forwarded electronically to the Web staff. All PDF files should be created for easy and fastest downloading.
- All software produced should be provided to SCAG with ANSI (American National Standards Institute) compliant documentation. See [www.ansi.org](http://www.ansi.org).
- Accessibility for Disabled Users. SCAG strives to make all of its Web resources accessible to persons with disabilities in accordance with Federal law (Section 508). Development of new content must meet Level 1 requirements. See Web Accessibility section. For more information refer to [www.w3.org/TR/WAI-WEBCONTENT/](http://www.w3.org/TR/WAI-WEBCONTENT/)

### **3. Technical Standards**

File Format:

- Text. Normal text on a Web page ensures the widest compatibility and fastest download. It also assists search engines in indexing information on the Web site. Be sure to allow sufficient white space for good readability. Avoid two or more column formatting. Avoid italicized fonts, as they are difficult to read.
- Multimedia. Unless necessary, keep audio and video files to a minimum. If used, subtitles and/or a text transcript describing what was attached must be provided to Web staff. See the Accessibility section for more information.

- Font size: Use Arial “10”
- A copy of the source code must be provided.
- Graphics. All graphics must be approved by the Graphics Department and conform to SCAG’s standard layout and design. Requests for new graphics should be coordinated directly with Carolyn Hart and meet these requirements:
  - Avoid excessive use of graphics and buttons. Keep amount of text and graphics to a minimum for easy viewing (less scrolling) and shorter download time. Break longer text documents into multiple pages.
  - If using images that serve a purpose on the page be sure to include a text description in the ALT attribute so that visually impaired users can read the images. Refer to Web Accessibility section.
  - Graphics must be in JPEG format, 72 dpi, RGB mode for photos.
  - All logos must be in EPS format and GIF.
  - Include all original higher resolution graphics and fonts that were used to create the Web page or layout.

#### Link to SCAG’s site

- All newly designed sites must include SCAG’s URL, [www.scag.ca.gov](http://www.scag.ca.gov) on the main page for easy navigation. SCAG’s URL should be prominently displayed at the top of each page.
- Templates.
- SCAG standard layout and design templates must be used to maintain a consistent look and feel of the Web site.

#### **4. Quality Assurance Testing**

- Conduct testing against specifications. Ensure that new development works as planned. Fix bugs and limit changes here to bugs, unless absolutely important.
- Compatibility testing. Check to make sure that content is fully compatible with major Web browsers which include MS Internet Explorer 5+, Netscape 4, AOL 5 and Lynx (text based browser).

- Spell check. Make sure there are no spelling errors on the new content. Use Dreamweaver's built-in link check tool or purchase a third party service such as NetMechanic.
- Check for usability. Is the newly developed content understandable and intuitive?
- Accessibility check. Check the content against the Accessibility checklist provided. Do the changes meet the requirements outlined in the checklist?

## **5. Production Process**

### Final testing/posting

- Once the site has been approved, it will be transferred to SCAG's Web server. Web material will be posted/accepted only upon final review and approval by SCAG Web staff.





# **Appendix - A**

## **Estimated Pricing Detail and Bid Spec**

**Information Technology Infrastructure  
for SCAG's Mission**

**The Integration Works, Inc.  
Evaluation and Recommendations**

<b>Desktop Computers</b>		
	Option A	Option B
Replace ALL	\$207,000.00	
Mixed Replace and Upgrade		\$120,000.00
Office Pro Upgd	\$30,000.00	\$30,000.00
C65975 Symantec Ghost Media Kit need one	\$21.00	\$21.00
C76820 Symantec Ghost 100 to 249 level each	\$2,544.00	\$2,544.00
<b>Subtotal</b>	<b>\$239,565.00</b>	<b>\$152,565.00</b>
<b>Labor</b>	<b>\$18,000.00</b>	<b>\$16,500.00</b>
<b>Total</b>	<b>\$257,565.00</b>	<b>\$169,065.00</b>

<b>Network</b>				
	<b>Option A</b>	<b>Labor A</b>	<b>Option B</b>	<b>Labor B</b>
Cabling		65,000.00		25,000.00
Patch Cables	2,000.00		2,000.00	
Gig Switches HP4160, 3xHP4140 + 3x 20-port 10/100/1000 modules	24,900.00	1,200.00	24,900.00	1,200.00
DMZ Switch HP2824 or old n-base	1,900.00	0.00	0.00	0.00
Physical Plant - Equipment Racking APC AR2310BLK x 3 with blanking panel kits, screw kits, fixed shelving, flat panel KVM, roof fan tray, cable management, bolt down kits.	12,000.00	7,200.00	12,000.00	7,200.00
KVM - Raritan A) KX116 with Cables B) KX232 with cables	10,000.00		7,000.00	0.00
UPS - SYA12K16PXR - APC 12Kva Symmetra LX 44mins runtime based on projected 7K watt load. Hardwire in and out 17" wide and 2 to 3 feet deep More batteries mean a 2nd stack Includes environmental and network accessible monitoring	14,100.00	6,000.00	10,000.00	5,000.00
AP7900 - Switched managable power strips Qty 8	3,600.00	inc	3,600.00	inc
Cisco 1720 routers x 3 hardware pricing on security page	6,000.00	1,800.00	0.00	0.00
<b>Subtotal Option A</b>	<b>74,500.00</b>		<b>59,500.00</b>	
<b>Labor A</b>		<b>81,200.00</b>		<b>38,400.00</b>
<b>Total</b>	<b>155,700.00</b>		<b>97,900.00</b>	

<b>Servers</b>			
	Option A - SAN		Option B - External Array
GIS 9	\$11,000.00		\$11,000.00
SQL	\$11,000.00		\$11,000.00
Exchange	\$11,000.00		\$11,000.00
Front-End Exchange	\$11,000.00		\$11,000.00
PDC-DNS	\$11,000.00		\$11,000.00
BDC-DNS-A/V	\$11,000.00		\$11,000.00
Terminal/Ghost/PCDocs	\$11,000.00		\$11,000.00
Intranet	\$11,000.00		\$11,000.00
FNP	\$11,000.00		\$11,000.00
e-Fax	\$240.00		\$240.00
SGMS	\$11,000.00		\$0.00
ColdSpare	\$11,000.00		\$11,000.00
WebDev	\$11,000.00		
Web	\$11,000.00		\$11,000.00
VMWare (Sandbox)	\$11,000.00		\$11,000.00
<b>Subtotal</b>	<b>\$154,240.00</b>		<b>\$132,240.00</b>
<b>Software Licensing</b>			
Exchange Ent x 2 and 150 CAL's	\$18,800.00		\$18,800.00
SQL 2000 x 2 with 50 CAL's	\$8,950.00		\$8,950.00
GIS 9	TBD		TBD
VMWare ESX	\$5,000.00		\$5,000.00
Windows Client CALS x 150	\$6,000.00		\$6,000.00
Windows Server lic incl in server pricing			
Terminal Server Client Licenses x 30	\$2,400.00		\$2,400.00
<b>Subtotal</b>	<b>\$41,150.00</b>		<b>\$41,150.00</b>
<b>Implementation Labor</b>	Labor A		Labor B
AD Migration	\$2,400.00		\$2,400.00
SAN Install	\$7,200.00		
Server Hardware	\$18,000.00		\$25,200.00
File Migration	\$4,800.00		\$4,800.00
Email Migration	\$12,000.00		\$12,000.00
Disaster Recovery	\$3,600.00		\$3,600.00
SQL Migration (s)	\$4,800.00		\$4,800.00
WWW migration	\$6,000.00		\$6,000.00
Documentation	\$7,200.00		\$7,200.00
GMS Implementaiton	\$2,400.00		\$2,400.00
Ghost Cast Server	\$1,200.00		\$1,200.00
Terminal Server	\$2,400.00		\$2,400.00
VMWare Installation	\$2,400.00		\$2,400.00
Architecture/Design/Plan	see other sheet		see other sheet
Project Management	see other sheet		see other sheet
X-Factor	\$12,000.00		\$12,000.00
<b>Subtotal</b>	<b>\$86,400.00</b>		<b>\$86,400.00</b>
<b>Total</b>	<b>\$281,790.00</b>		<b>\$259,790.00</b>

	Base \$10,070.00	\$10,070.00		
	Intel® Xeon™ Processor 3.06GHz/1MB			
	333704-001			
	Intel® Xeon™ 3.06GHz/533 FSB - 1MB Processor - Option Kit			
	333713-B21			
	2.5GB Base Memory (4x512, 2x256)			
	25GDDR-01G			
	Windows® Server 2003 Standard Edition + 5 CALs			
	326057-B21			
	Integrated Smart Array 5i Plus Controller			
	Included			
	Smart Array 532 controller (RAID)			
	225338-B21			
	Hot Plug Drive Cage-Ultra3 (5 x 1" and 1 x 1.6")			
	Included			
	RAID 5 setting (Requires minimum of 3 matching drives)			
	143446-IND			
	72.8 GB Pluggable Ultra320 SCSI 15,000 rpm Universal Hard Drive (1")			
	286778-B22			
	72.8 GB Pluggable Ultra320 SCSI 15,000 rpm Universal Hard Drive (1")			
	286778-B22			
	72.8 GB Pluggable Ultra320 SCSI 15,000 rpm Universal Hard Drive (1")			
	286778-B22			
	72.8 GB Pluggable Ultra320 SCSI 15,000 rpm Universal Hard Drive (1")			
	286778-B22			
	72.8 GB Pluggable Ultra320 SCSI 15,000 rpm Universal Hard Drive (1")			
	286778-B22			
	72.8 GB Pluggable Ultra320 SCSI 15,000 rpm Universal Hard Drive (1")			
	286778-B22			
	Hot Plug Redundant Power Supply Module (NEMA cord) (NA)			
	313054-001			
	1.44MB Floppy Disk Drive			
	Included			
	24X Low-profile IDE CD-ROM Drive			
	Included			
	Two (2) Compaq NC7781 PCI-X Gigabit NICs (embedded) PCI 10/100/1000 WOL			
	Included			
	Sliding Rails and Cable Management Arm			
	Included			
	SmartStart & Insight Manager 7			
	Included			
	Integrated Lights-Out Management - standard			
	Included			
	Warranty - 3 year next business day onsite			
	Included			

<b>Servers (without Part Numbers)</b>			
	Option A - SAN		Option B - External Array
GIS 9	\$11,000.00		\$11,000.00
SQL	\$11,000.00		\$11,000.00
Exchange	\$11,000.00		\$11,000.00
Front-End Exchange	\$11,000.00		\$11,000.00
PDC-DNS	\$11,000.00		\$11,000.00
BDC-DNS-A/V	\$11,000.00		\$11,000.00
Terminal/Ghost/PCDocs	\$11,000.00		\$11,000.00
Intranet	\$11,000.00		\$11,000.00
FNPP	\$11,000.00		\$11,000.00
e-Fax	\$240.00		\$240.00
SGMS	\$11,000.00		\$0.00
ColdSpare	\$11,000.00		\$11,000.00
WebDev	\$11,000.00		
Web	\$11,000.00		\$11,000.00
VMWare (Sandbox)	\$11,000.00		\$11,000.00
<b>Subtotal</b>	<b>\$154,240.00</b>		<b>\$132,240.00</b>
<b>Software Licensing</b>			
Exchange Ent x 2 and 150 CAL's	\$18,800.00		\$18,800.00
SQL 2000 x 2 with 50 CAL's	\$8,950.00		\$8,950.00
GIS 9	TBD		TBD
VMWare ESX	\$5,000.00		\$5,000.00
Windows Client CALS x 150	\$6,000.00		\$6,000.00
Windows Server lic incl in server pricing			
Terminal Server Client Licenses x 30	\$2,400.00		\$2,400.00
<b>Subtotal</b>	<b>\$41,150.00</b>		<b>\$41,150.00</b>
<b>Implementation Labor</b>	Labor A		Labor B
AD Migration	\$2,400.00		\$2,400.00
SAN Install	\$7,200.00		
Server Hardware	\$18,000.00		\$25,200.00
File Migration	\$4,800.00		\$4,800.00
Email Migration	\$12,000.00		\$12,000.00
Disaster Recovery	\$3,600.00		\$3,600.00
SQL Migration (s)	\$4,800.00		\$4,800.00
WWW migration	\$6,000.00		\$6,000.00
Documentation	\$7,200.00		\$7,200.00
GMS Implementaiton	\$2,400.00		\$2,400.00
Ghost Cast Server	\$1,200.00		\$1,200.00
Terminal Server	\$2,400.00		\$2,400.00
VMWare Installation	\$2,400.00		\$2,400.00
Architecture/Design/Plan	see other sheet		see other sheet
Project Management	see other sheet		see other sheet
X-Factor	\$12,000.00		\$12,000.00
<b>Subtotal</b>	<b>\$86,400.00</b>		<b>\$86,400.00</b>
<b>Total</b>	<b>\$281,790.00</b>		<b>\$259,790.00</b>

Storage		Option A	Option B
			(storage in server spec)
SAN price before subtraction of standard server spec hard drive savings		\$ 270,572.92	
		Subtracting standard hard drives	Server Attached
GIS 9		-\$2,800.00	\$14,000.00
SQL		-\$2,800.00	
Exchange		-\$2,800.00	\$14,000.00
Front-End Exchange		\$0.00	
PDC-DNS		\$0.00	
BDC-DNS-A/V		\$0.00	\$14,000.00
Terminal/Ghost/PCDocs		-\$2,800.00	
Intranet		-\$2,800.00	
FNP		-\$2,800.00	\$14,000.00
SGMS		-\$2,800.00	
ColdSpare		\$0.00	
WebDev		-\$2,800.00	
Web		\$0.00	
VMWare (Sandbox)		-\$2,800.00	
Subtotal		\$245,372.92	\$56,000.00
<b>Backup Software</b>			
Qty 10	VER LB 8/U 9.1 SRV CMBO 1YR		
1	VER LB 8/U 9.1 LIB OPT 1YR CMBO		
1	VER LB 8/U 9.1 EXCH AGT 1YR CMBO		
2	VER LB 8/U 9.1 SQL AGT 1YR CMBO		
10	VER LB 8/U 9.1 SAN STOR 1YR CMBO		
10	VER LB 8/U 9.1 ADV OFO WICAL 1YR CMBO		
1	VER 8/U 9.1 CD MEDIA KIT		
6	Netware Agent's with 1yr		
Subtotal		\$ 27,540.81	\$ 27,540.81
<b>Tape Drive</b>			
Qty 1	CPQ MSL6060 2DR LTO2 FIBRE RM		
1	CPQ SVC PK 3Y 24X7X4		
1	HP CP INSTALLATION & STARTUP		
60	HP 1PK LTO2 ULTRIUM 200/400GB CART		
1	HP FIBER LC/LC 60/125 MM 2M 6.5FT		
Subtotal		\$ 50,765.52	\$ 50,765.52
Overall Subtotal		\$323,679.25	\$134,306.33
Labor		Included in server labor pricing	Included in server labor pricing
Total		\$323,679.25	\$134,306.33
<b>SAN Parts Detail</b>			
<u>QTY.</u>	<u>Description</u>		
<b>Hardware</b>			
2	HP StorageWorks SAN switch 2/16V		
2	Factory integrated		
6	Storage Works LC/LC 2m Cable		
20	Fbr Optic Cable 16m LC Duplex 50/125 M/M		
20	500m Optical Tran. All		
20	E982 PCIx 2GB Fibre Channel HBA All		
<b>Storage</b>			
1	42U EVA cab 60Hz ALL		
1	eva3K 2C2D-C CTO 8x146 GB/10k ALL		
1	Factory integrated		
1	EVA3K CTO Flag Storage		
20	FC HDD INT 146G CTO 10K Fact ALL		
20	Factory integrated		
1	Storage Mgmt Appliance		
1	Factory integrated		
1	M5314 FC Drive Enclosure		
1	Factory integrated		
<b>Software</b>			

1	SP WIN 10 LTU/CD 4.0C all		
1	VCS HSV100 Media Kit 3.0		
10	VolGrwth CD/LTU/DOC all		
1	HP OV SOM 1.0 EVA Media/ doc kit		
1	HP OV SOM v1.0 5TB LTU		
<i>Services</i>			
1	HP CP Installation		
1	Installation - Disk Systems/MSA/EMA		
1	Installation-SecurePath 10 Host LTU		
20	Installation-EVM EVA SW		
20	Installation - Host Adapter Card/Router		
1	HP CP Implementation		
1	Implementation - SAN Level 2 Tier 3		
<i>Warranty</i>			
1	HP CP 3Y Support Plus 24		
1	Manuals on CD-ROM		
10	Support - Data Protr SSE/Stor VolG LTU		
1	Support - SP HP/WIN/Lux/NVL 10 LTU		
1	Support-EVA SW OVSOM, BC & CA band 8CC		
20	Support - FC Host Bus Adapter		
2	Support - 2/16 FC Switch		
1	CD-ROM (disk only)		



<b>Security</b>				
<b>Firewall/VPN - Option A</b>		<b>Option A</b>		
SonicWALL				
01-SSC-5370	Pro 4060 Firewall	\$4,995.00		
01-SSC-3062	8x5 Annual Support	\$845.00	Annual	
01-SSC-5371	Pro 4060 Firewall (#2 for failover and load balancing)	\$4,995.00		
01-SSC-3062	8x5 Annual Support	\$845.00	Annual	
	Intrusion Prevention Service upgrade	\$3,800.00	Annual	
01-SSC-5261	Global Security Client (telecommuter) 10 Users	\$145.00	Annual	
01-SSC-5555	TZ/170 for Riverside office	\$495.00		
01-SSC-3501	8x5 Annual Support	\$115.00	Annual	
01-SSC-5506	Content Filtering Services	\$1,999.00	Annual	
01-SSC-3423	Complete Anti Virus Annual 100 users	\$7,399.00	Annual	
01-SSC-3422	Complete Anti Virus Annual 50 users	\$3,999.00	Annual	
01-SSC-3311	Global Management System w/25 nodes	\$4,995.00		
01-SSC-3322	Annual Support for GMS	\$749.00	Annual	
<b>Subtotal</b>		<b>\$35,376.00</b>		
<b>Labor Total</b>		<b>\$13,800.00</b>		
<b>Total Option A</b>		<b>\$49,176.00</b>		
			<b>Option B</b>	
<b>Cisco option Option B</b>				
PIX-515E-UR-BUN	PIX Firewall		\$6,995.00	
CON-SNT-PKG9	Annual Smartnet for above unit next day		\$910.00	Annual
PIX-515E-FO-BUN	PIX Failover Unit		\$3,000.00	
CON-SNT-PKG5	Annual Smartnet for above unit next day		\$375.00	Annual
CSS11501	Content Service Switch - load balancer		\$10,995.00	
PIX-501-BUN-K9	PIX Firewall for Riverside		\$595.00	
CON-SNT-PKG1	Annual Smartnet for above unit next day		\$75.00	Annual
CSA-STARTER-K9=	VMS Management Console		\$3,000.00	
CON-SAS-PKG5	Annual Smartnet for above unit next day annual		\$356.00	Annual
CWHSE-1140-19-K9	Cisco Hosting Solution Hardware and Software		\$7,995.00	
con-snt-hse-1140	Annual Packaged Hardware Support for CHS Hardware		\$1,049.00	Annual
CON-SAS-PKG13	Annual Packaged Software Support for CHS		\$2,052.00	Annual
IDS4215-CSA-BUN-K9	Threat Prevention Starter Kit 4215 IDS Sensor and CSA		\$8,995.00	
CON-SNT-PKG10	Annual Smartnet software maint for CSA starter kit		\$1,060.00	Annual
CE-565A-72GB-K9	Content Filtering Engine		\$11,000.00	
CON-SAS-PKG8	Annual Smartnet for CFE		\$712.00	Annual
SF-WEB24-100	Websense for Content Engine 2 year qty 2 up to 200 users		\$8,484.00	2 year
<b>Anti-Virus - McAfee AVD w/EPO administration - needed if no SonicWall</b>				
AVDCDE-AA-DA	101-250 pricing level --> Price here is for \$150.00		\$7,950.00	
<b>Subtotal</b>			<b>\$75,598.00</b>	
<b>Labor Total</b>			<b>\$18,000.00</b>	
<b>Total Option B</b>			<b>\$93,598.00</b>	

<b>Web</b>		
	Option A	Option B
Loadbalancing Hardware (Coyote Point E350)	\$14,000.00	0
Web Server	\$11,000.00	0
Reverse Proxy	\$11,000.00	0
Microsoft ISA Software	\$1,620.00	0
<b>Subtotal</b>	<b>\$37,620.00</b>	0
<b>Labor</b>	<b>\$6,000.00</b>	0
<b>Total</b>	<b>\$43,620.00</b>	0

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# Southern California Association of Governments ("SCAG")

Information Technology ("IT")  
Infrastructure for SCAG's Mission

## Document Change Control

Document ownership and all changes made by TIWI.

Date	Changes Made
Apr 28, 2004 (rev 0)	Initial document framework for review by core team
Apr 29, 2004 (rev 1)	Reformatted of document structure
Apr 30, 2004 (rev 2)	Revised to reflect input for TIWI consulting team
May 04, 2004 (rev 3)	Updated after review by Ron Akers and additional information provided, determined or gathered during the days interviews
May 12, 2004 (rev 4)	Updated based on design review and working sessions
May 13, 2004 (rev 5)	Additions and formatting
May 14, 2004 (rev 6)	Additions and formatting
May 17, 2004 (rev 7)	Additions and formatting
May 18, 2004 (rev 8)	Additions and formatting
May 19, 2004 (rev 9)	Additions and formatting
May 20, 2004 (rev 10)	Additions and formatting
May 21, 2004 (rev 11)	Additions and formatting
May 24, 2004 (rev 12)	Additions and formatting
May 25, 2004 (rev 13)	Additions and formatting
May 25, 2004 (rev 14)	Additions and formation
May 26, 2004 (rev 15)	Editing concluded

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## Executive Summary

The Integration Works, Inc (TIWI) has been engaged by Southern California Association of Governments (SCAG) to evaluate the existing Information Technology (IT) infrastructure and make recommendations for a new infrastructure to meet the objectives of SCAG for a flexible Best Practices infrastructure. TIWI has provided in this document a design and pricing for a recommended SCAG infrastructure over the next 1 to 3 year and lays the foundation for years 4 and 5.

### Agency Drivers and Best Practices:

- ▲ A flexible IT is necessary to fulfill the program needs of the agency
  - IT represents a critical success factor to achieve SCAG's mission
- ▲ Reliance on an up-to-date IT systems, applications and networks for end-users to perform their functions
  - Commitment to create an agency wide spatial database
  - IRIS system under development pending deployment July 2004
  - RTMIS system is under development pending deployment
  - Projects in planning process for RTIP
  - Network access from and to resources and participating organizations
  - Web is becoming a "standard operating procedure" and is undergoing enhancements
  - Web development happens on production systems increases risk of downtime
  - End-user windows desktops are not able to take advantage of latest capabilities decreasing their effectiveness and increase support costs
  - Impact of cost of delay in revamping the IT infrastructure

- Best Practices are multi-layered due the complexity of today's IT infrastructures. At the highest level, it means taking the time to plan and design the infrastructure to meet the objectives of the organization based on generally accepted IT standards in the industry.
  - One of the key considerations is the viability and adherence to standards of companies providing the servers, networks, desktops, operating systems and application software.
  - TIWI has recommended and provided budgeting pricing for these types of vendors. Other vendors may also be viable candidates for supplying the hardware, if they can provide the same or better level of capabilities.
  - TIWI is recommending Microsoft's XP Professional Operating Systems and Office 2003 Pro applications to be the standard baseline for desktops.
  - At the server level, TIWI is recommending Microsoft's Windows 2003 server platform and Active Directory.
  - The recommend E-Mail server software is Exchange 2003.
  - The recommended database technology is Microsoft SQL Server 2000. Best of breed hardware technology has been recommended from HP/Compaq for servers, networking, and storage.
- SCAG has come to a position where its existing infrastructure has been left unattended from an architecture and strategic point of view. The infrastructure needs to be dramatically redesigned and implemented to fulfill SCAG's mission. Co-location of all infrastructure is not viable due to application limitations, cost-benefit, bandwidth-performance, service, and Best Practices considerations.
  - SCAG has an extremely high dependence on IT technology for workers to produce results and provide member services. The marketplace is moving forward on industry standards for IT, and will expect the same level of availability, scalability, and security from SCAG.
  - Careful attention has been paid to provide appropriate, secure flow of information inside and outside of SCAG. Viable A and B options have been identified for each section of the recommendation.
  - When A and B options are present, the A represents the best possible solution, while the B represents a functional but less desirable solution.
  - SCAG has reached the point in time where it needs to recreate the IT infrastructure to go forward. Equipment and software is being recommended that can be supported with Best Practices methodology by a combination of trained staff and outsourced vendors. This is a critical project for SCAG to undertake due to the increasing reliance on technology, and its need of a highly available IT infrastructure.



## Purpose of document

- Report the results of TIWI's evaluation of current agency's IT :
  - Infrastructure;
  - staffing resources
- Report TIWI's recommendations:
  - for an infrastructure that:
    - reduces IT's complexity;
    - lowers ongoing support cost;
    - maximizes IT's efficiency without comprising security;
    - provides reliability;
    - provides capabilities needed by the user community;
    - factors in cost effectiveness and flexibility;
    - applies current Industry standard IT Best Practices.
  - develop options giving pros and cons addressing the key components of:
    - networking;
    - servers;
    - data storage;
    - resources (time, staff, skills and estimated cost ranges)
  - possible phasing of future implementation
  - other TIWI recommendations or considerations
- List assumptions forming the basis for the recommendations

## Table of Acronyms

Acronyms and abbreviations are used with most technologies and organizations in today's world. Southern California Association of Governments (SCAG) and The Integration Works, Inc. (TIWI) are no exceptions to this. In order to assist the reader, the following table has been developed describing the major acronyms used throughout.

SCAG Acronyms	Definition
AQMP	Air Quality Management Plan
D&M	Data and Monitoring Department
EMME/2	System for planning the transportation of people on multimodal networks
ESRI	Software GIS suite
GIS	Geographic Information Systems
IRIS	Integrated web Regional Information System
MPO	Metropolitan Planning Organization
PILUT	Planning for Integrated Land Use and Transportation
RTIP	Regional Transportation Improvement Program
RTMIS	Regional Transportation Monitoring and Information System
RTP	Regional Transportation Plan
SAP	SCAG's internal management information system
SCAG	Southern California Associates of Governments (counties: Imperial, Los Angeles, Orange, San Bernardino, Riverside and Venture)
TP&P	Transportation Planning & Programs department
TransCAD	System of GIS designed specifically for transportation professionals
TranPlan	System (main) for Transportation Modeling
VIPER	VIsual Planning EnviRonment
WAGS	SCAG Web Accessible Geodata Search

IT Acronyms	Definition
AD	Microsoft Windows Active Directory
AIX	IBM Operating System based on UNIX
A/V	Anti-Virus Software
CFS	Content Filtering Solution

IT Acronyms	Definition
DAS	Direct Attached Storage to a server where internal or external storage enclosure
DC	Domain Controller - a server that contains a portion of the directory
DHCP	Dynamic Host Configuration Protocol - a system that gives client computers IP addresses dynamically at startup
DNS	Domain Name Service – helps computers resolve hostnames to IP addresses (e.g. to find a website on the Internet)
GB	GigaByte – a billion bytes of information
GBs	GigaBits per second – a billion bits (1/8 of a byte) of information usually referring to transport of data on a network or SAN
HBA	Host Base Adapter – an adapter within a server providing access to storage and varies depending on the storage and capabilities
IT	Information Technology
IDP	Intrusion Detection and Prevention
DPI	Deep-Packet Inspection
MCDST	Microsoft Certified Desktop Support Technician <a href="http://www.microsoft.com/learning/mcp/mcdst/default.asp">http://www.microsoft.com/learning/mcp/mcdst/default.asp</a>
MCSA	Microsoft Certified Microsoft Certified Systems Administrator <a href="http://www.microsoft.com/learning/mcp/mcdst/default.asp">http://www.microsoft.com/learning/mcp/mcdst/default.asp</a>
MCP	Microsoft Certified Professional
MSCE	Microsoft Certified Engineer <a href="http://www.microsoft.com/learning/mcp/mcse/default.asp">http://www.microsoft.com/learning/mcp/mcse/default.asp</a>
MS Certifications	Microsoft Certifications <a href="http://www.microsoft.com/learning/mcp/default.asp">http://www.microsoft.com/learning/mcp/default.asp</a>
LAN	Local Area Network
NDS	Novell NetWare Directory Services
NFS	Network File System
NOS	Network Operating System (e.g. Microsoft Windows 2003 Server)
NT	Common abbreviation for Microsoft's Windows NT Operating System
PC	Personal Computer
SAN	Storage Area Network a high-speed subnetwork or shared storage devices
TB	TeraByte – a trillion bytes of information
TCP/IP	A network communications protocol (Internet standard)
VPN	Virtual Private Network - a system that allows secure connectivity to a private network over the public Internet
WAN	Wide Area Network
XP	Microsoft's latest desktop Operating System

## Evaluation of Current Environment

### Overview

The TIWI consulting team used available documents, diagrams, site visits, blueprints, and conducted interviews with key members of the SCAG team. The information gathered, collated, analyzed by the team and the implications determined. The evaluation is based on extensive IT experience of the team members and by current standard industry Best Practices and trends.

### TIWI conducted Interviews with SCAG personnel

<i>Name</i>	<i>Title</i>	<i>Date and brief comments</i>
Jim Gosnell	Deputy Executive Director	03-May-04 Ron Aker was present. We had a short meeting with Jim to discuss downtime implications both organizationally and financially.
Ron Akers	Project Consultant	03-May-04 Ongoing question and answer sessions with Ron, TIWI's primary contact and focal point. Team took a tour of the data center. Approved Delivery Document format.
Deng Bang Lee	Modeling Manager	03-May-04 Ron Aker and Victor Rynden were Present. Beng Bang presented his case on his need for conforming to a rigid standard and that his group has written applications to take advantage of multiple systems to work on a model at one time to decrease overall completion time. Restrictions and constraints (hardware, software, application support, staff, special interfaces, and consistency with prior model runs from previous years) exist that prevent the modeling group from moving to another platform sooner than three to five years.
Courts Carter	Web contractor	03-May-04 Ron Aker was present. Courts discussed the need for a development system for the Web. Mark provided the team with the information that even with another server readily available, the web server would be down for one (1) day up to two (2) days before it could be restored assuming a viable backup tape was available. Additional, data storage would be necessary for aerial photos, images, GIS data and potential video streaming.
Rina Pangindi	Senior Database Analyst	04-May-04 via telephone due to her schedule. She provides oversight for the SCAG committee that determines web content on the Intranet and Extranet.
Tom Wayson	IRIS Manager	05-May-04 Ron Aker was present.
Victor Ryden	MIS	05-May-04 Ron Aker was present.

Huasha Lui	Acting Dir IS	05-May-04 Ron Aker was present.
Jim Gosnell and Hasan Ikhata	Deputy Executive Director Dir of Planning & Policy	05-May-04 Ron Aker was present.
Mike Ainsworth	Riverside modeling	13-May-04 telephone interview

## SCAG documents used for the basis of the evaluation and recommendations

The following list of documents represents information provided by SCAG for TIWI to use in the evaluation:

<i>Name</i>	<i>Description</i>	<i>TIWI comments</i>
<b>SCAG IT Info 042904.doc</b>	SCAG IT Infrastructure Information (Document 21 pages)	Received from Ron Aker 04/29/04
<b>SCAG IT Info 042904.doc</b>	Appendix A – Server Inventory (Spreadsheet 8 print pages) Appendix B – Network Hardware (Spreadsheet 4 print pages)	Received from Ron Aker 04/29/04
<b>SCAG IT Info 042904.doc</b>	Network Diagram (updated during interview with Victor 05-05-04)	Received from Ron Aker 05/03/04
<b>Infrastructure Interview Questionnaire</b>	Questionnaire with some responses sent by Ron to various people within SCAG to elicit information for the RFP	Received from Ron Aker 05/03/04
<b>Blueprint of 12<sup>th</sup> floor</b>	Provided by Victor and copied	Received from Victor Ryden 05/05/04
<b>Photos of Data Center</b>	Photos taken with permission of the data center	Val Hunter 05-05-04
<b>SCAG Standard Desktop Configuration</b>	DELL CMAS Store (Contract # 3-94-70-0012)	Received from Ron Aker 05/05/04

## Interview Results and Evaluation categorized by elements

Network related:

<i>Name</i>	<i>Interview results</i>	<i>Evaluation</i>
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Ron Aker Court Carter Jim Gosnell Hasan Ikhata Huasha Liu Victor Ryden Tom Wayson	<ul style="list-style-type: none"> <li>o Network uptime is very important. If it stops working then everyone stops working because of the huge dependency on desktops and centralized data storage.</li> <li>o Ongoing access to the Web provides SCAG members the ability continue to receive value from their dues and participation.</li> <li>o The 12<sup>th</sup> floor baseline throughput is limited to 10mbps by the existing cable plant 10BaseT Category 3.</li> <li>o Accesses to centralized data storage will increase network traffic.</li> <li>o Office hours are 7am to 6pm Monday through Friday, where SCAG end-users are dependent on a working infrastructure.</li> <li>o SCAG is considering delivering Video content both broadcast and on demand.</li> </ul>	<ul style="list-style-type: none"> <li>o The current network is not capable of supporting a Best Practices Infrastructure.</li> <li>o The network is the foundation on which the rest of the Infrastructure must be reliable and secure.</li> <li>o Single points of failure need to be addressed or accepted as allowable business risks. Minimizing single points of failure does increase the cost of acquisition and level of support.</li> <li>o For individuals on the 12<sup>th</sup> floor to be able to reach 100/mbps new cable plant will be needed.</li> <li>o Architecture of the Network for throughput, scalability, flexibility, security and management are critical.</li> <li>o Networking equipment, software, management, security and policies must change and conform to Best Practices.</li> <li>o Video streaming will require additional servers for conversion and broadcast / on demand services. If the decision is made to proceed.</li> </ul>
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### Desktop related:

<i>Name</i>	<i>Interview results</i>	<i>Evaluation</i>
Ron Aker Court Carter Jim Gosnell Hasan Ikhata Huasha Liu Tom Wayson	<ul style="list-style-type: none"> <li>o The Windows 9x systems are impacting end-users ability to complete their work efficiently. Numerous shut downs are required to solve system hangs, system slow downs and to fix application problems.</li> <li>o Having multiple operating systems increases the complexity of providing support.</li> <li>o Versions of the application software are not up to date, meaning that useful new functions and application stability is not possible.</li> <li>o Policies for standardization of desktops are currently ineffective.</li> <li>o No policies or mechanisms for ongoing technology refresh of the desktops.</li> <li>o With few exceptions, most desktops are under-configured</li> </ul>	<ul style="list-style-type: none"> <li>o Desktops need to be transitioned in bulk to Windows XP.</li> <li>o Hardware upgrades and standardization are required to minimize support issues and provide end-users with stable high performance systems that will support their work.</li> <li>o Network will have to support the higher throughput demands of users.</li> <li>o Control of desktops will become a centralized function using the benefits of Windows 2003 Active Directory and policies approved by a SCAG IT steering committee.</li> <li>o An organizational standard of a minimum office suites is to be established and maintained</li> <li>o Licensing fees for new Operating System Windows XP Professional is to be included on new desktop systems.</li> <li>o Existing applications need to be researched and tested for</li> </ul>

	to support a high productivity end-user environment.	<p>compatibility with Windows XP. New licenses may be needed to remain operational. The need for non standard software should be reviewed for current fit prior to purchasing, as a means of purging software no longer required.</p> <ul style="list-style-type: none"> <li>o Leasing equipment with a refresh option should be considered.</li> </ul>
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### Server related:

<i>Name</i>	<i>Interview results</i>	<i>Evaluation</i>
<p>Ron Aker</p> <p>Court Carter</p> <p>Jim Gosnell</p> <p>Hasan Ikhata</p> <p>Deng Bang Lee</p> <p>Huasha Liu</p> <p>Tom Wayson</p>	<ul style="list-style-type: none"> <li>o Current Windows and Netware servers are out of date are from multiple vendors.</li> <li>o No strategy has been followed in acquiring new systems.</li> <li>o No centralized management of servers is in place or possible</li> <li>o Monitors, keyboards and a mouse are dedicated to each tower, which is not needed or desired.</li> <li>o Equipment support for power, space utilization, efficiency of managing, scalability and network are inadequate to meet the Mission and do not conform to Best Practices.</li> <li>o Systems are treated as independent entities versus an integral whole with standardized support and management.</li> <li>o Backup/Restore is on a system basis versus a primary data storage system.</li> <li>o Data center lacks an efficient look.</li> </ul>	<ul style="list-style-type: none"> <li>o Current servers need to be rapidly phased out and replaced with an Architected Best Practices solution addressing management, scalability, flexibility for re-provisioning, centralized data storage, backup/restore, high-speed reliable network, fail-over capability for data storage, latest Operating System releases and application software.</li> <li>o Versions of server applications will need to be verified for ability to be updated.</li> <li>o Data Center will have to accommodate a dual environment during transition to the new infrastructure.</li> <li>o Power may be an issue.</li> <li>o Modeling servers will be retained as is. A separate project for evaluating the application software and transitional impacts to Models continuity of results and customized use of multiple tools. The Modeling environment will benefit from the changes in network, centralized storage and quality of management.</li> </ul>

### Storage related:

<i>Name</i>	<i>Interview results</i>	<i>Evaluation</i>
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Ron Aker Court Carter Jim Gosnell Hasan Ikhata Huasha Liu Tom Wayson	<ul style="list-style-type: none"> <li>o SCAG is moving to centralized data storage to provide integration of GIS data with other data. Integration of data provides numerous benefits and requires a tighter integration of departments.</li> <li>o Current file servers need to be served by a centralized storage area to accommodate growth and minimize copies of data.</li> <li>o Centralized backup of SCAG data protects end-users from potential loss and makes desktop support more straightforward.</li> <li>o Performance improvements are needed to manipulate data on the network efficiently.</li> </ul>	<ul style="list-style-type: none"> <li>o Currently individual systems have data, which must be maintained, backed up, manipulated for growth and represent a single point of failure, if the server is down for whatever reason.</li> <li>o Economies of scale are achieved by creating a central data storage system.</li> <li>o New Servers are Architected using two paths to centralized data for increasing availability.</li> <li>o Centralized Backup and Restore are standard with Best Practices of centralized data storage (SAN).</li> </ul>
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Web related:

<i>Name</i>	<i>Interview results</i>	<i>Evaluation</i>
Ron Aker Court Carter Jim Gosnell Hasan Ikhata Huasha Liu Tom Wayson	<ul style="list-style-type: none"> <li>o The web is the conduit for electronic communications with members and the public.</li> <li>o The availability of the web supports SCAG's mission to provide service to its members and the public.</li> <li>o Programs like IRIS are dependent on the web for access.</li> <li>o SCAG needs to be able to provide an easier means of bulk download via the web.</li> <li>o Integrating GIS data will place higher demands on the web and provide a higher level of member services</li> <li>o Aerial photographs will be made available on the web, which are large files and supports the need to have an easier means of bulk downloads.</li> <li>o Web server development and production systems are under-configured for pending new uses planned.</li> </ul>	<ul style="list-style-type: none"> <li>o High availability Architecture will be within the plan and cost considered.</li> <li>o See servers, network, storage, staffing and security</li> <li>o A reliable managed data center is critical to the success of the web.</li> <li>o Web development and deployment are to follow Best Practices under a separate project.</li> </ul>



Staff related:

<i>Name</i>	<i>Interview results</i>	<i>Evaluation</i>
Ron Aker Jim Gosnell Hasan Ikhata Huasha Liu	<ul style="list-style-type: none"> <li>○ MIS staffing must continue to support current Operating System during transition</li> <li>○ MIS staff must be able to contribute to the transition due to their intimate knowledge of existing systems, environments, processes and other considerations.</li> <li>○ External service organizations will be needed during the transition and probably beyond</li> <li>○ MIS staff have been on a slow evolution and will be faced with a revolutionary new approach.</li> <li>○ Response time and quality of support is not at an acceptable level.</li> <li>○ MIS functions and support is to be given a fresh look for options</li> </ul>	<ul style="list-style-type: none"> <li>○ Extra effort will be required for MIS staff during transition and early stages of operations of new infrastructure</li> <li>○ It is unrealistic to expect current staff to take training on a new infrastructure without practical experience. They won't be able to actually implement while still maintaining the old infrastructure</li> <li>○ The new infrastructure will be new in most ways and will be in line with Industry Standard Best Practices. This will make it easier to be supported by others.</li> <li>○ Transition Team is to provide extensive documentation on the new infrastructure, policies and procedures.</li> <li>○ A SCAG project champion will be required.</li> <li>○ A SCAG project manager will be required.</li> <li>○ An ongoing relationship with an IT Architect will be required to assure that changing business objectives are planned and met by IT along with adherence to Best Practices. This role changes IT to a proactive progressive partner in obtaining the SCAG Mission.</li> <li>○ An IT steering committee is needed to have a unified strategy for IT objectives. Steering committee should reflect management, IT Architect and key technologists for a balance view. Strategic ongoing IT business partners should also be involved.</li> </ul>

Security related:

<i>Name</i>	<i>Interview results</i>	<i>Evaluation</i>
Ron Aker Court Carter	<ul style="list-style-type: none"> <li>○ Current Security measures are a burden to end-user's efficiency.</li> <li>○ Workarounds are used to provide information to external members, requiring manual intervention and imposing time</li> </ul>	<ul style="list-style-type: none"> <li>○ Security policies need to established from an organizational perspective.</li> <li>○ Security needs to adhere to Best Practices.</li> <li>○ Security needs to be part of the Infrastructure Architecture</li> </ul>

Tom Wayson	<p>delays.</p> <ul style="list-style-type: none"> <li>○ Security is being addressed using non-standard Best Practices due to vendors used and their product limitations.</li> <li>○ Security must be maintained, even though most of SCAG's information is later made available to members and some to the public.</li> <li>○ Access by external members, support staff and limited public access is required to meet the objective of providing more information in a timely manner.</li> </ul>	<p>and not added on after the fact.</p> <ul style="list-style-type: none"> <li>○ Security once established will have to be monitored and policies enforced.</li> <li>○ Security is necessary to keep hackers / intruders from stealing information and processes and to prevent malicious acts that could threaten the uptime of systems and reliability of data.</li> <li>○ Security is also required that prevents internal resources from unintentionally compromising computer security.</li> <li>○ Security is a combination of policy, hardware, software, IT support and vigilance.</li> </ul>
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# Recommendations

## Overview

TIWI has prepared recommendations giving two options (A or B) for the major components of the Infrastructure. Under each option are listed PROs and CONs for each corresponding option. Options (A and B) may be interchanged and the Infrastructure will still function. TIWI recommends Option (A) because it matches the closest with the agency objectives and the mutually agreed decision criteria and weight (see section below: Decision criteria and weight). Option (B) generally gives more weight towards cost, but not at the loss of basic functionality.

The current infrastructure is nearing its point of obsolescence. It will provide ongoing operations, which will be phased out as the Transition Team begins moving the functions off to the new infrastructure. This has the following benefits:

- ▲ Minimizes disruptions to end-users and business functions
- ▲ Uses existing IT staff to support current infrastructure and still provides support the Transition Team
- ▲ Testing of transitional elements can be done more effectively and with less risk
- ▲ Cutover to the infrastructure can be planned and executed on a scheduled basis not driven by external events
- ▲ Upon completion, the new infrastructure will be running, and the obsolete infrastructure can be removed

The Transition Team, (external service organization), is recommended to take SCAG from its existing infrastructure ("X") to the new infrastructure ("Z"). An external service organization provides the following benefits over any possible in-house option:

- ▲ Experience with moving from a Novell environment to the Industry Standard Windows 2003 environment
- ▲ Experienced staff and ability to mix specialists based on the technologies and timing
- ▲ Use of proven procedures and approaches that minimize testing and risk
- ▲ Minimizes impact on existing IT staff except for cutovers and provides detailed current infrastructure information
- ▲ IT staff will gain valuable information about the new infrastructure by being involved and making the extra effort needed to maintain the current environment, supporting the Transition Team and looking toward their future.

- ▲ A SCAG (internal) Project Manager will be needed as the primary point of interaction for the Transition Teams project manager and for SCAG staff. This key role increases the probability of having a successfully project by maximizing communications and taking responsibilities.
- ▲ SCAG will also need to have an Executive Champion to maintain the energy and commitment during the transition.

At the completion of the transition, ("Z") TIWI recommends outsourcing of the new infrastructure data center functions. Existing IT staff can pickup desktop support, perform routine data center operations, end-user system administration and other duties assigned by the outsourcer. SCAG may determine to invest in training and Microsoft Certified Engineer ("MSCE") certification of its existing IT staff reducing over time dependence on the outsourcer. It must be stated that the high level functions provided by the outsourcer of Architecture, Engineering and Infrastructure Management will most likely always remain to protect SCAG's investment in the infrastructure and then adapt it as needed for SCAG changing needs.

\*\*\* Note: Estimated transition services for moving from ("X") to ("Z") must match Infrastructure components for example: Networks Option A must pair with the Transition service budgetary estimate for Networks Option A.

## Decision criteria and weight

Criteria provide the basis for how elements of the recommendations are to be judged based on the values established by SCAG. Weight provides the means of prioritizing the criteria list.

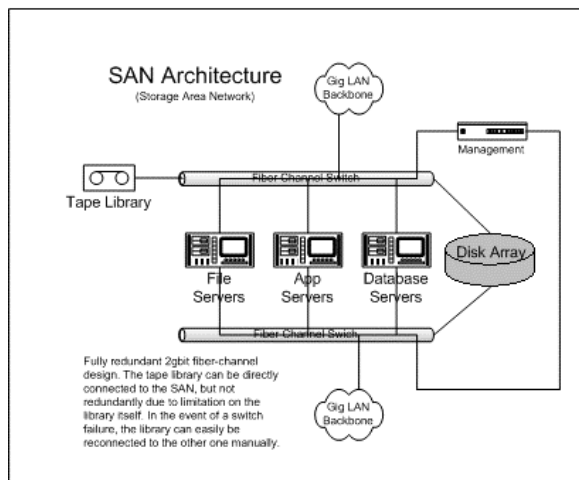
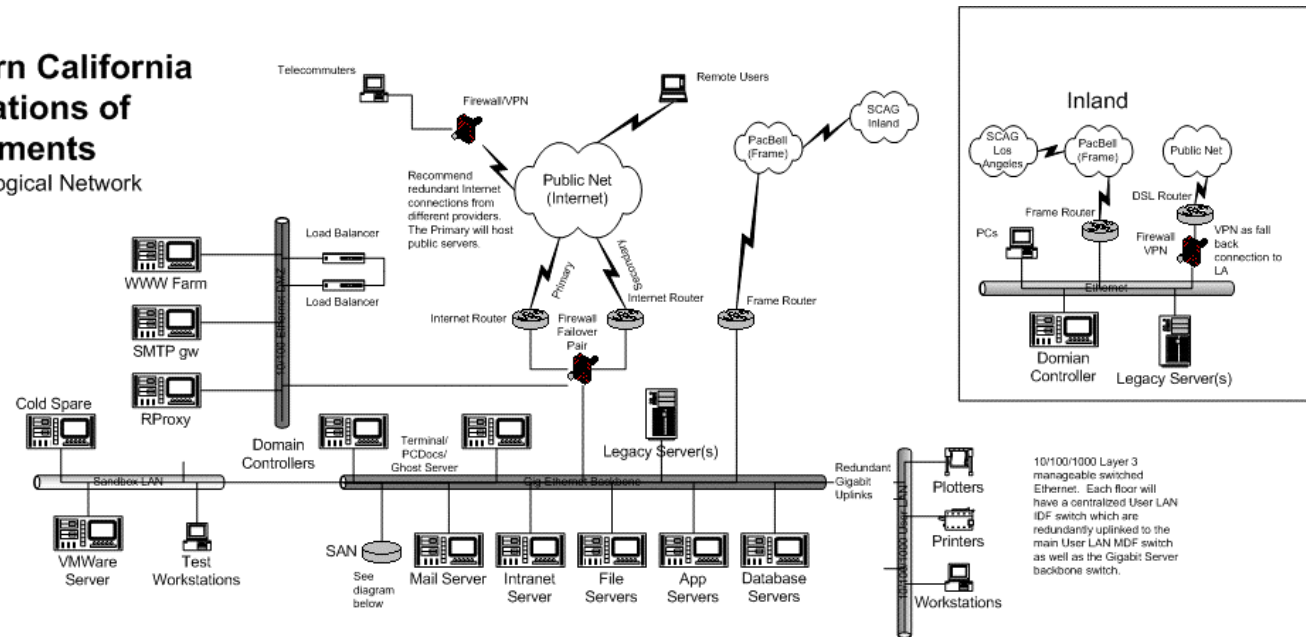
Weight	Criteria	Comments
<b>1 (highest)</b>	Adherence to Industry standard IT Best Practices	As they apply to SCAG's stated objectives
<b>2</b>	Network availability	The ability for internal staff, external members and the public to reach and use resources of the network based on security access.
<b>3</b>	Flexibility, scalability and supportability	The ability to response in a reasonable manner to changing agency objectives and needs while being supportable by experienced trained staff or by an outsourcing organization
<b>4</b>	Cost from an overall perspective including implications on staffing	Price tag is considered along with 'cost' to the organization. Standards and supportability are factored into this area. Example; some functions are very costly to in-source and not needed full time. This is where outsourcing provides the right fit.
<b>5</b>	Uptime for web server and recovery time for file and print servers	Access by members and the public to the web to provide outgoing services, which are expected to expand. Internal access to desktop user files and the ability to print. Network uptime, key servers and storage availability are critical components.

Weight	Criteria	Comments
6 (lowest)	Centralized storage	This is lowest, if it were based solely on the technology without any other considerations.

## Network Diagram

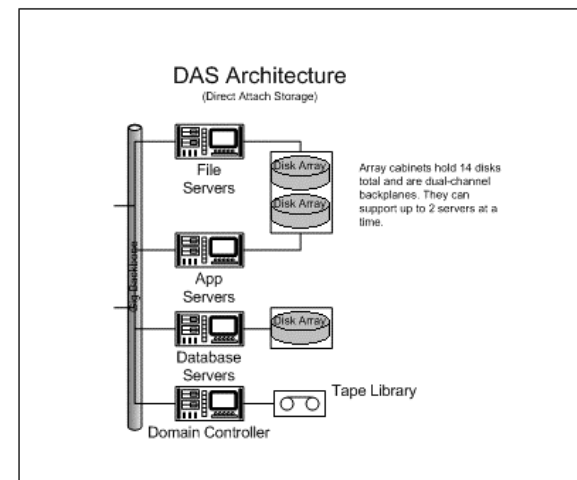
### Southern California Associations of Governments

Proposed Logical Network  
Diagram



Notes:  
This diagram is logical in nature and is not meant to represent physical nor topological design considerations, however it may suggest them. All possible iterations of logical design options have not been represented here. The diagram is not comprehensive in scope but is meant to illustrate the SCAG Information Technology Infrastructure Document in which it is contained. Existing infrastructure will be relied upon during transition and is not fully represented here.

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### Recommended Infrastructure Methodology

Option A	Option B	Comments
Option A is the recommended solution.	Option B will meet the basic functionality, generally with a higher weight factor to cost versus availability (uptime), flexibility and adaptability..	Each section is built to perform with options A or B independently of the choices A or B of the other sections. Labor A or B is tied to the same section choices.
		It is important to note that the Comments sections do NOT always relate directly to the A and B options in the same row, but to the entire section in which they are found.

## Network

This section contains recommendations for upgrades and improvements to the physical and electronic items which make up the network "backbone" at SCAG.

Option A	Option B	Comments
Complete cabling of the 12 <sup>th</sup> floor	Cable only locations of critical power users	Physical layer is foundationally important to high speed networking. CAT3 network cabling can cause underlying issues with high speed environments unless network speeds are intentionally turned down
Gigabit Network Backbone	Same as Option A	Necessary for high speed communications between servers. Decreases over-

Option A	Option B	Comments
		subscription of many connecting to servers, and allows for data growth in the organization, faster backups, and general data movement.
High Availability Internet	None	For load balancing and failover of access to public servers and VPN's.
DMZ	Same as Option A	Creating isolated, protected Internet accessible area for publicly hosted servers (web, FTP, SMTP)
Physical Plant Improvements	Same as Option A	Equipment racking with forced cooling, consolidated keyboard/video/monitor switches, cable cleanup/management, centralized UPS system.
Managed Network Switches	Same as Option A	Fully managed redundant connections to the gigabit backbone, and 10/100/1000 capability to the desktop. Ability to run reporting on network port activity for troubleshooting.
Replace Xyplex T1 routers with Ciso routers	Leave existing routers in place	Installation of Cisco routers to replace the two existing Xyplex units.

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
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Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
Re-cabling will lay the proper foundation for flexible and reliable desktop to server operations. A lack of proper physical layer (cabling) can be the culprit of many underlying network problems in high-speed environments.	Higher cost	Lower cost	Cabling specific users will create some confusion as to who may need what, and stifle movement of people and expansion of application usage among the users. Increased troubleshooting requirements will follow with impending network bandwidth problems.	
Replacing the Xyplex edge routers will standardize connection of the digital circuits on the Cisco platform, which is uniformly accepted and understood and supportable with this aspect of connectivity.	Additional cost	Existing routers are working acceptably, saves additional cost.	Xyplex is a non-standard technology that is difficult to support.	

## Resources

### Transition

Option A	Option B	Comments
Transition Team is to provide the design, planning and additional setup of the Network. The Team will also provide documentation on the Network including diagrams and operational considerations.	Same as Option A	
Cabling Contractors would install all cabling and provide documentation	Same as Option A	
We have included in the pricing consideration for an Electrical Contractor to install the high capacity UPS in conjunction with the Transition Team.	Same as Option A	

## Resources

### Ongoing support after transition

Option A	Option B	Comments
In-sourcing Desktop Support	In this section we could have 3 options: total in-sourcing, total outsourcing and a balance between in-sourcing and outsourcing. We strongly believe that, for SCAG, neither a total in-sourced nor total outsourced would be applicable. Therefore, we have suggested the balance as listed here.	Desktop support can and should be in-sourced due to the daily ad hoc nature of this function, it would be better to have a full-time staff person available to react to needs as they arrive.
In-sourcing LAN Administration/Operations	Same as Option A	Like desktop support, the Local Area Network administration (user adds, changes, etc.) should be in-sourced by a qualified full-time staff person

## Security

Security is pervasive. It impacts all aspects of the recommendations, architecture and design contained in this document. However, this section is limited to network security and remote access.

Option A	Option B	Comments
3 <sup>rd</sup> Party Security Audit to validate the security design of transition team.	Same as Option A	Security Audit should be performed by a 3 <sup>rd</sup> party not associated with the integrator outsourced as the transition team, following Best Security Practices.

Option A	Option B	Comments
SonicWALL dual firewall failover pair	Cisco dual firewall failover pair	Due to the importance of this section, option A and B are the essentially the same with only vendor choices being highlighted.
Integrated IDP/DPI	IDP/DPI Additional hardware and software required	
Integrated CFS	CFS Additional hardware and software solution required	
Integrated A/V Enforcement	Additional hardware and software required.	
Secure Mobility via Global Security Client (VPN) which has centralized policy enforcement at the firewall.	Cisco's VPN Client plus additional personal firewall software will be required. Not centrally enforced.	
Remote office WAN redundant link provided by local firewall and remote firewall VPN. This solution will also allow for 'split tunneling' or dedicated Remote Internet Access. Firewall content policies and rules base will be centrally managed.	Remote office WAN redundant link provided by local firewall and remote firewall VPN. This solution will also allow for 'split tunneling' or dedicated Remote Internet Access. Firewall content policies and rules base can not be centrally managed.	

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
Integrated solution	SonicWALL logo not as well-known as Cisco.	Cisco brand security is more well-known.	Higher upfront and recurring costs	The option B in this section is actually more expensive than option A. Option B is only recommended to give an option to A.
Lower upfront and recurring costs			Higher complexity due to the multiple platforms and software that must be coordinated to deliver the desired security services.	

## Resources

### Transition

Option A	Option B	Comments
Outsourcing security audit with 3 <sup>rd</sup> party	Same as Option A	The existing staff will be required to maintain the existing security infrastructure during the security transition
Outsourcing new security transition	Same as Option A	The existing staff as well as transition team will be called upon as reference to the security audit before and after transition.
In-sourcing maintenance and coordination of existing security infrastructure during transition	Same as Option A	A comprehensive Security policy creation and adoption is outside the scope of recommendations contained in this document. However, significant portions of these policies are part of the audit and delivery documentation for both options. It is our recommendation that a separate comprehensive Security policy project be performed in addition to the infrastructure upgrade project.

## Resources

### Ongoing support after transition

Option A	Option B	Comments
Security audit will be validated following transition by 3 <sup>rd</sup> party who performed initial audit.	Same as Option A	
Ongoing Managed Security vendor should be selected based on which option (A or B) to support SCAG's security infrastructure.	Same as Option A	
Some light duty security administration can be in-sourced where appropriate	Same as Option A	

## Servers

Servers are the “working end” of the network infrastructure. Each one of the servers listed below are separated by “roles” that each one plays in the network.

Option A	Option B	Comments
GIS	Same as Option A	The server platform is intentionally identical across each of these roles. This provides SCAG with the greatest flexibility and redundancy, while still utilizing the servers in their desired roles.
SQL	Same as Option A	The unified server platform is an HP 2U Dual Xeon P4 with 2.5GB of RAM each.
Exchange	Same as Option A	Servers will either utilize the internal storage capacity (up

Option A	Option B	Comments
		to 350GB) or external storage (either SAN or DAS) depending on the role.
Front End Exchange	Same as Option A	Windows Server 2003 will be the unified Network Operating System across each of these roles (with the exception of the VMWare sandbox server.) This provides SCAG with the industry standard NOS.
PDC	Same as Option A	Other standards-based software is being recommended in their respective roles such as Microsoft Exchange, Microsoft SQL, and Norton Ghost.
BDC	Same as Option A	Terminal Server 2003 will replace Citrix for remote access via thin-client to network applications and remote support.
Terminal/Ghost/PCDocs	Same as Option A	Web sites will be consolidated on a new web server and eventually load-balanced in a farm setup. Due to security and Best Practices concerns, an Intranet site will be hosted on a separate server.
Intranet	Same as Option A	File Services will be hosted on a new File Server with DFS shares to the BDC.

Option A	Option B	Comments
File Server	Same as Option A	Active Directory will be designed and hosted per Best Practices on 2 DCs at Los Angeles, and one in Riverside.
Cold Spare	Same as Option A	
Web Development	Reallocate existing Web server	For security and Best Practices reasons, a Web Development server will be hosted on a separate new or reallocated server.
Web	Same as Option A	A cold spare will be part of this recommendation to minimize disaster recovery restoration.
VMWare	Same as Option A	Provides a Sandbox environment for testing new server applications on Windows or Linux for feasibility and integration. Once the determination has been made to put it into production it can be engineered into the infrastructure and the sandbox application removed.

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
All new hardware for each server with a unified platform is the best approach to provide	Some servers may be 'overpowered' for their role.	Reallocation of an existing server for Web Development box will save initial costs.	Since the Web Development server is not the same hardware as the production server, baseline and web	Additional options can be found in the storage section which relate to the

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
maximum redundancy and flexibility while still utilizing each server in the role for which it is designed.			application performance tests will be invalid as they apply to the production server.	server infrastructure.
Disaster Recovery reaction time will be vastly improved by standardized hardware. An example is Norton Ghost can be employed to quickly image a server in the recovery process.				

## Resources

### Transition

Option A	Option B	Comments
Active Directory Migration	Same as Option A	Migrate Novell Netware directory plus security to the new Windows 2003 AD structure.
SAN Installation/DAS Installation	Same as Option A	Setup and configuration of storage array(s.)
Server Hardware Installation	Same as Option A	Physical setup of the servers pre role assignment including NOS installation.
File Migration	Same as Option A	Migration of file data from legacy systems preserving or improving security when desirable.



Option A	Option B	Comments
E-Mail Migration	Same as Option A	Migration of all e-mail accounts and e-mail data from legacy e-mail system.
Disaster Recovery Plan	Same as Option A	Design, plan and implementation of DR components and documents.
SQL Migrations	Same as Option A	Migration of databases from existing SQL servers to new platforms.
WWW migrations	Same as Option A	Migration of web sites and DNS to new host.
Documentation	Same as Option A	Thorough documentation of the server environment.
Ghostcast	Same as Option A	This server will host and distribute workstation (and perhaps server) images.
Terminal Server	Same as Option A	Thin-client remote access to network applications plus remote support.
VMWare	Same as Option A	Installation of the VMWare operating system to support testing of Modeling software or other applications in discrete operating environments.

## Resources

### Ongoing support after transition

Option A	Option B	Comments
In-sourcing Desktop Support	In this section we could have 3 options: total in-sourcing, total outsourcing and a balance between in-sourcing and outsourcing. We strongly believe that, for SCAG, neither a total in-sourced, nor total outsourced would be applicable. Therefore, we have suggested the balance as listed here.	Desktop support can and should be in-sourced due to the daily ad hoc nature of this function, it would be better to have a full-time staff person available to react to needs as they arrive. Training level should be Microsoft MCDST and optionally MCSA.
In-sourcing LAN Administration/Operations	Same as Option A	Like desktop support, the Local Area Network administration (user adds, changes, etc.) should be in-sourced by a qualified full-time staff person. Training level should be Microsoft MCP.
Outsourcing Engineering	Same as Option A	This position, due to the infrequent need for infrastructure repairs and 'heavy lifting' technology applications, should be outsourced. This position should off-load daily tasks and supplement labor to the LAN/Ops position.
Outsourcing Architecture	Same as Option A	This position is needed to translate business needs into technological solutions. This person will task the rest of the

Option A	Option B	Comments
		technology team to carry out the business objectives. Since the level of experience required is high, the skill-set necessary is unique and the function not required daily, it makes the most sense to outsource this role.
Outsourcing/In-sourcing Program Manager	Same as Option A	This role must be filled by two individuals: one in-sourced managing the organization and one outsourced managing the vendors. These two individuals would interface directly, ongoing for projects and planning aspects of IT at SCAG. Again, these roles would not be needed daily.
Champion	Same as Option A	This role is the primary visionary leader for IT at SCAG. Director level, with influence and respect in the organization.
Steering Committee	Same as Option A	This committee will be made up of the Architect, Champion, and rotating departmental leaders who serve on the committee for a given term.

## Data Storage

Data storage usually refers to mass storage devices such as disk and tape drives. Disk drives provide high-speed random access to data in files needed by end-users' on their desktop systems, and by application servers. Tape drives are used to provide a low-cost, systematic means of backing up disk storage to capture a moment of time. Tape provides the means for disaster recovery by being able to restore data from a certain backup point should it become lost for any reason.

Currently some SCAG end-users are keeping SCAG data files on their own desktop systems. This is due primarily to the lack of performance on the network and data center servers. The information on the desktop systems are not being backed up in a systematic manner and are not available for sharing readily and with others in the organization. Best practices are to have user data stored in a controllable data storage environment. The supporting infrastructure needs to be able to support the transport (network) of the data to the desktop or other servers as needed.

Issues to be addressed in designing data storage:

- ▲ Capacity (required and growth)
- ▲ Availability (access and uptime)
- ▲ Speed (throughput)

Disk data storage in today's environments are of two basic types:

1. SAN – A Storage Area Network is a high-speed special-purpose network that exists separately from the organization's corporate network servers and runs on specific interfaces, such as Fibre Channel or a Small Computer System Interface (SCSI), that transfers data quickly between storage devices.
2. DAS – Direct Attached Storage is within the server box or externally connected to a storage enclosure via host bus adapter. Data stored on the disk is primary for the server to which it is connected and can also be made available via the network when setup.

Option A	Option B	Comments
SAN as the central repository for data for primary servers these include: <ul style="list-style-type: none"> <li>▲ GIS</li> </ul>	DAS emulates central repository for data for these servers: <ul style="list-style-type: none"> <li>▲ GIS</li> <li>▲ Web Intranet</li> </ul>	

Option A	Option B	Comments
<ul style="list-style-type: none"> <li>🔊 Web Intranet</li> <li>🔊 Email</li> <li>🔊 File and Printer (e.g. network drives F: G: H: K: M: N: O:) and potential for many more</li> <li>🔊 PC Docs</li> <li>🔊 Desktop images for deployment and restoration (Ghost)</li> <li>🔊 Modeling data can be network transferred to the SAN for storage and network retrieval.</li> <li>🔊 Data on SAN is just as available to other non-SAN attached systems as it is on DAS systems.</li> </ul>	<ul style="list-style-type: none"> <li>🔊 Email</li> <li>🔊 File and Printer (e.g. network drives F: G: H: K: M: N: O:) and potential for many more</li> <li>🔊 PC Docs</li> <li>🔊 Desktop images for deployment and restoration (Ghost)</li> <li>🔊 Modeling data can be network transferred to DAS for storage and network retrieval.</li> </ul>	
DAS will be used for the Servers Operating System and for servers, which are not within Best Practices to attach to a SAN (for example servers in the DMZ like Web Servers)		

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
High capacity storage Provides SCAG with flexibility and capabilities. For example, aerial photographs take up a lot of disk storage and may be used by more than one server. Streaming on-demand video requires extensive data storage.	Cost of initial acquisition and services setup is significantly higher than DAS.	Storage capacity within the server up to 360GB (5 x 72GB drives)  An attached storage enclosure expands the capacity to 14 (360GB drives) or the storage enclosure can be split 7 and 7 by two servers.	DAS will have less overall capacity, less scalable for data growth than the SAN option	In a stable ongoing environment where change is not an issue. DAS storage would provide the most overall cost effective solution. However, given the dynamic nature of SCAG and its programs the need flexibility and additional capabilities is why we recommend the SAN as Option A.
Extremely high uptime SAN provides higher	Future costs per Gigabyte is higher than with DAS.	Uptime is tied to its servers uptime.	Uptime is dependent on the servers ability to access the	

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
<p>protection a from disk failure by being able to remain running even with 2 disks failing in the disk group (RAID 50). Alarms are sounded, lights flash and a message is send to the systems operator to notify the need to call service in a proactive manner.</p> <p>Provides SCAG access to data without consideration for whether it will be up or not. It provides a level of utility to data.</p>		<p>Data is protected as long as only 1 disk fails in the RAID 5 configuration.</p>	<p>data</p>	
<p>High performance throughput</p> <p>Provides SCAG with the ability to feed and receive data quickly and efficiently. Makes it possible to use 144GB 10,000RPM drives versus 72GB 15,000 RPM drives.</p>	<p>Depending on maintenance contracts SAN's may be higher for ongoing support. This will depend on the maintenance organization and number of comparative DAS devices.</p>	<p>High performance throughput by using lower capacity drives (72GB) with Smart Raid Array controllers.</p> <p>Provides SCAG with high speed data comparable to a SAN.</p>	<p>Have to use the lower capacity drives which limits it overall total capacity</p>	
<p>Large volume sets are possible beyond what would be available on a DAS</p> <p>Provides SCAG flexibility for future applications</p>			<p>Volume sets are limited by the capacity of the DAS.</p>	
<p>Servers attached can be replaced or repaired without concern for the physically</p>			<p>Servers that need to be replaced must have data backed up to tape or another</p>	

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
enclosed disks minimizing down time and support time  Provides SCAG end-users a more rapid recovery should a server experience downtime (planned or unplanned).			system with available space to be held for restoration until the server can be brought back to an operational state.	
SAN based storage is not within the physical server.  Provides SCAG with the ability to upgrade server for more CPU performance and not have to deal with buying more data storage or having to transfer data to it.			DAS is physically connected to the server.	
SAN is extensible.  Provides SCAG the ability to add storage in blocks as needed.		DAS is being configured to have extra space available. The disk drives may be moved to other servers, if the need arises and has been properly planned.		
SAN uses available space more efficiently, because it is a pool resource versus a dedicated resource.  Provides SCAG with more available storage with less physical disks. This provides ongoing long term growth capabilities for less cost.			DAS units are a dedicated resource.	

## Resources

### Transition

Option A	Option B	Comments
We have included in the pricing HP's Enterprise Backup Solution service to provide vendor specific SAN assistance to the Transition Team.	Transition Team will implement DAS in conjunction with the servers. Network-based backup is also a part of the DAS solution.	
Transition Team is to provide the design, planning and additional setup of the SAN. The Team will also provide documentation on the SAN including diagrams and operational considerations.	Transition Team is to provide the design, planning and setup of DAS. The Team will also provide documentation including diagrams and operational considerations.	

## Resources

### Ongoing support after transition

Option A	Option B	Comments
Current staff with outsourcer direction would maintain systems with SAN. Current staff would need vendor-specific training on the SAN from HP.	Current staff with outsource direction would manage and maintain DAS. Current staff would need vendor-specific training on DAS.	

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
	Staffing: A SAN requires a higher skill set than DAS for initial architecture, design, setup and document. External services will be required.	Staffing: Existing staff are likely accustomed to DAS.	Staffing time to manage a DAS is greater due to its physically distributed nature and less comprehensive management control.	
Staffing time to manage a SAN versus a DAS is less due to its virtual nature and	Staffing: Existing staff can not be expected to provide ongoing management and			



Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
management control. Additionally, because it is physically separated from the servers, updates to new servers or replacement of servers require less time.	monitoring of the SAN without external training. Connection to a resource with a higher SAN skill set will probably still be required.			

## Web

This section relates to the infrastructure required to support hosting the web sites and services for SCAG information consumers.

Option A	Option B	Comments
High availability	Single point of failure.	High availability is accomplished by setting up a "web farm" of 2 or more web servers w/application load-balancers in front of the farm.
Web Farm / Load-balancers	One new Web Server.	While less desirable yet less costly, the current web infrastructure can be utilized as a 'cold spare' style failover for the new web server.
Reverse Proxy		Reverse proxy is for performance and security considerations.

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
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Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
High availability of web accessible data	Implementation and maintenance costs are higher	Low cost, due to reuse of existing hardware	Unreliability of old hardware, not true load-balancing or failover.	

## Resources

### Transition

Option A	Option B	Comments
Outsourced Transition team will setup and install new infrastructure.	Same as Option A	
Outsource will coordinate with in-source to migrate sites accordingly.	Same as Option A	

## Resources

### Ongoing support after transition

Option A	Option B	Comments
Outsourcing Engineering	Same as Option A	Web application development is not part of the scope of this document. However, in our experience a division of labor between outsourced technical expertise and graphic design elements with in-sourced content and project management can be highly affective.

Option A	Option B	Comments
Outsourcing and In-sourcing coordination	Same as Option A	

## Desktops

This section relates to the desktop infrastructure recommendations.

Option A	Option B	Comments
Complete desktop refresh in 1 <sup>st</sup> year.	Partial desktop refresh and upgrade targeting older desktops with unsupported operating systems. Complete refresh accomplished over 3 years.	For the partial upgrade, desktops need to be targeted that do NOT have Microsoft Windows 2000 or XP.

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
Cost per unit is much lower due to greater purchasing power and one-time setup costs. Greatest ROI is realized due to single deployment early in the 3 year cycle.	Large initial cost outlay, however this could be somewhat mitigated with leasing.	Lower initial cost outlay in the 1 <sup>st</sup> year.	Greater overall deployment costs (over 3 years) and reduced ROI due to staggered deployment.	Network based imaging software such as Norton's Ghost cast server will be employed to reduced cost of support and deployment. This creates an ability to deploy a "15 minute" troubleshooting rule before performing a simple re-image.
Lower total cost of ownership due to the efficiencies inherent in supporting a very small number of hardware/software combinations.			Higher total cost of ownership due to many combinations of hardware/software.	

## Resources

### Transition

Option A	Option B	Comments
Outsourced transition team	Same as Option A	Again, outsourcing the transition will enable business functions and continuity to continue uninterrupted, supported by the current in-house staff.

## Resources

### Ongoing support after transition

Option A	Option B	Comments
Desktop Support and Administration in-sourced	Same as Option A	In-sourcing desktop support will cost less and have a perceived higher level of service than outsourcing. The ad hoc nature of desktop support in an organization the size of SCAG lends itself to full-time, in-house staff.
Training needed - Microsoft MCDST Certification		

## Possible Phasing of future implementations

Option A	Option B	Comments
No Phasing – contiguous rollout/implementation over 6-9 months.	Three Phased approach	Due to the many A/B combinations along with Phasing, it is impossible to determine at this point whether artificial phasing will break technical inter-dependencies. As such, phasing is only estimated. Actual costs may vary.

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
Homogenous deployment. Same people generally work on the project end to end. Largest benefit from the investment due to new services being readily available. Continuity gained. Overall cost is lower than phasing. Minimized internal competition for project phase completion.	Large initial cash outlay, or commitment to lease interest.	Less initial cash outlay, spread of large investment over time (3 years).	Additional complexity, more possibility for scope creep, unseen costs, end user fatigue due to many interruptions over time. Higher overall cost from the start. “re-operating on the same patient” scenario. Internal competition and re-prioritization may become an issue.  Difficult to phase due to artificial separation of the project.	Possible phasing priorities:  Phase 1: Network/Web Servers/Security  Phase 2: Servers/Storage  Phase 3: Desktops
				Leasing for 3 to 5 years is a possible solution to support Option A. Most

Option A PROs	Option A CONs	Option B PROs	Option B CONs	Comments
				leasing institutions allow hardware and services to be bundled in the lease amount.

## Overall Conclusions

### Pros

Option A	Option B	Comments
Provides the best solution to provide critical uptime to staff, external organizations and the public	Lower initial cost in most cases while still maintaining basic functionality.	Each section is built to perform with options A or B independently of the choices A or B of the other sections. Labor A or B is tied to the same section choices.
		Timing of new infrastructure will dovetail well with new programs, expected programs and potential programs. Also, it creates the efficient flexible environment for the work on the next RTP.
		Infrastructure designed for using industry standard Best Practices increases the availability of service provider, contractors and employees.

## Cons

Option A	Option B	Comments
Cost is higher from an acquisition point of view.	When looked at from a three year perspective this option may actually cost more due to the start/stops and additional burden on the organization.	The Infrastructure is not an evolution, but a newly designed Infrastructure. To expect existing IT staff to provide data center functions in a manner similar to the past will negate the investment. A significant investment in training and ramp time is needed to bring the IT staff into a larger support role for the new Infrastructure.
Outsourcing of higher-end functions is recommended	Outsourcing of higher-end functions is recommended	

## Other TIWI recommendations and considerations

- Whichever option is selected (A) / (B) or combination it is recommended implementation be done at one time without any attempts at phasing. If phased, it will minimize the immediate benefit and artificially introduce delays and additional costs.
- Available monies in the 2003/2004 budget could be applied to installing the cable plant on the 12<sup>th</sup> floor and preparation of the data center from an environment perspective. Have a power audit and if necessary acquire additional power.
- Have a third party that will not be a bidder for the transition project or outsourcing, perform a security audit and develop organizational security policies. This is a necessary step before transition begins. Security can not be implemented without an organizational policy. Bring the third party back in after the transition to validate that the new infrastructure conforms to the organization's security policy.
- Transition Team provides a continuous effort where possible versus any phasing. Phasing of project teams result in a higher chance of members being swapped. Project specific areas and integration ramp up will cost more in money and time.

- Lease including transition services with refresh of desktops every three (3) years. We think this is the best option given budget considerations. This will level out expenditures over the term and speeds the benefit of the new infrastructure to be realized.



## List of Assumptions -- Basis of Evaluation and Recommendations

### *Assumptions:*

**MODELING:** During the investigation and evaluation phase questions arose about the new server and storage being proposed to replace the existing 5 IBM servers modeling runs on today. It became apparent the answers to these questions would require specialized knowledge and more investigation to properly evaluate the proposed solution. There are issues revolving around application support, conformity, SCAG custom interfaces that need to be addressed, along with potential new applications to be tested on different platforms and different operating systems. However, we do propose a team made up of Mr. Lee, a Unix consultant, Ron Aker, Michael Kahn, etc. be formed to answer the following questions (and maybe more):

- ☐ Will TranPlan version 9.1 work with new operating system - AIX 5L for Power v5.2?
  - ☛ Talk to Citilabs - Has Citilabs certified the proposed equipment configuration to run TranPlan 9.1?
- ☐ Is the TranPlan program able to use all of the available memory?
  - ☛ Talk to Citilabs
  - ☛ Have technical expert familiar with AIX and Fortran analyze the code to determine this.
- ☐ Will TranPlan be able to use the new proposed storage?
  - ☛ Does it require a person to actively manage the program work area?
- ☐ Has SCAG modified the TranPlan code?
  - ☛ How?
  - ☛ Will this affect the program operation on the new equipment?
- ☐ Will present SCAG utilities work with the new operating system?
  - ☛ May require testing.
- ☐ How many SCAG utilities are there?
  - ☛ List, with their purpose, those that are tied to the TranPlan application
  - ☛ List, with their purpose, those that optimize
- ☐ the machines
  - ☛ List, with their purpose, those that optimize the storage
  - ☛ List any others with their purpose
- ☐ Migration Plan?
  - ☛ Leave old machines in place
  - ☛ Run parallel for first few models
  - ☛ Continue to use old machines for small models?
- ☐ We do not recommend the acquisition of new servers until the above have been addressed.

<i>Assumptions:</i>
<b>Our evaluation does take into consideration all the other infrastructure needs of modeling including faster network speed, better storage and Modeling still gains from the advanced networking of the new Infrastructure. If the modeling applications will run a platform that is consistent with the architected infrastructure it can be adapted to include it, otherwise the network can be used to transport data between systems to their storage devices. Our evaluation takes into consideration the infrastructure needs of modeling in the generic sense including; faster network speed, storage, and backup capacity.</b>
<b>GIS 9 system with centralized database will be acquired by SCAG and implemented in the future by others with SCAG personnel or outside service providers</b>
<b>Storage capacity has been estimated to start at 2TeraBytes (TB) with the capability of scaling with additional acquisitions to 6TB</b>
<b>Data center:</b> <ul style="list-style-type: none"><li>○ <b>Co-location was not considered as an option in the recommendations due to architectural limitations of the current applications, which must be hosted locally on premise at SCAG. Additionally considerations of cost, bandwidth and servicing make co-location undesirable.</b></li><li>○ <b>Space will be made available for new configuration and will coexist during transition with existing equipment</b></li><li>○ <b>Room modifications for power, air conditioning, cabling, etc. that may be required will be completed by others</b></li></ul>

*Assumptions:*

**Budgetary estimated pricing has been based on the following:**

- Other assumptions listed within this section
- TIWI experience and pricing of Security components
- HP WinTel Servers running Windows 2003 OS
- HP networking equipment
- Cable plant on the 12<sup>th</sup> floor of \$65,000 based on the bid received by others
- Services for Transition would be done by TIWI, based on its current understanding of the project, and it would be a continuous project (not phased). With the full support of an internal SCAG project manager, SCAG project Executive Champion, full cooperation and support of the SCAG staff.
- After the transition outsourcing of data center functions beyond ops and admin would be provided by TIWI as the project is currently understood.
- Prices used for equipment were based on list prices or CMAS pricing.
- Dell desktops provided by Ron Aker (DELL CMAS Store [Contract #3-94-70-0012]) \$1,226.03 each
  - △ Microsoft Windows XP Pro Operating System

<i>Assumptions:</i>
<p><b>Not included in pricing (not all-inclusive):</b></p> <ul style="list-style-type: none"> <li>○ SCAG applications running on servers <ul style="list-style-type: none"> <li>△ For example ESRI's GIS 9</li> <li>△ Any modeling applications</li> <li>△ Any non Microsoft application that needs to be upgraded to work on Windows 2003 server</li> <li>△ Any non Microsoft application that can not be upgraded to work on Windows 2003 server and would need to be replaced with an application that would work</li> </ul> </li> <li>○ Applications running on current desktops that need to be upgraded to work on Windows XP (for example a version upgrade)</li> <li>○ Any non Microsoft application that can not be upgraded to work on Windows XP and would need to be replaced with an application that would work</li> <li>○ Services to review and certify current desktops applications to be retained and their ability to function properly under Windows XP.</li> <li>○ End-user training for new versions of Microsoft Operating System user interface, Microsoft Office applications or any other software on the desktop platform.</li> <li>○ Any additional circuit installation and ongoing costs (for example Riverside's new connection to the Internet).</li> <li>○ Training of existing IT staff specific to A and B choices since decisions are not yet in place.</li> </ul>

<i>Assumptions Transition:</i>
<b>SCAG IT staff will maintain the existing IT structure during the transition and provide ongoing support to the Transition Team</b>
<b>Existing Infrastructure will stay in place during the transition</b>
<b>Current WAN will stay in place (no changes to providers)</b>
<b>There will be on average someone of the implementation staff on site during the estimated project 4 days out of five from starting time based on estimation.</b>
<b>Budgetary numbers</b>
<b>SCAG will support and foster the continuous effort of the transition team</b>

<i>Assumptions Transition:</i>
<b>Data Center Environment:</b> <ul style="list-style-type: none"><li>⚠ Sufficient power is available for the existing infrastructure and new infrastructure to co-exist in the data center. If there is insufficient power, SCAG will contract the work to be done in a timely manner by others.</li></ul>
<b>SCAG will provide a working environment for the Transition Team:</b> <ul style="list-style-type: none"><li>⚠ Desks and chairs will be available for each member of the team</li><li>⚠ Conference rooms will be available for meetings</li><li>⚠ Networking capabilities internal and externally</li><li>⚠ Printers</li><li>⚠ Copy machines and other standard office equipment and supplies</li><li>⚠ Access to offices and building off hours as may be required</li></ul>
<b>SCAG will provide the Transition Team with the following:</b> <ul style="list-style-type: none"><li>⚠ Provide documents and images on a timely basis that may be requested</li><li>⚠ Complete access to systems in the data center and desktops</li><li>⚠ Initiate contacts with SCAG 3<sup>rd</sup> parties as may be necessary</li></ul>

## Project Team

The following SCAG personnel are members of the core or extended team:

<i>Name</i>	<i>Title</i>
Jim Gosnell	Deputy Executive Director
Ron Akers	Project Consultant/Primary contact
Huasha Lui	Acting Dir IS

The following are members of TIWI consulting team:

<i>Name</i>	<i>Team Role</i>
James Carter	Senior Analyst II
Val Hunter	Senior Analyst II
Richard Hartman	Senior Analyst I

## Budgetary estimated pricing summary

<i>Infrastructure Elements</i>	<i>Option ( A )</i>	<i>Option ( B )</i>	<i>Transition Services</i>	<i>Option ( A )</i>	<i>Option ( B )</i>
<b>Not phased</b>					
Network	\$ 74,500.00	\$ 59,500.00	Network	\$ 81,200.00	\$ 38,400.00
Servers/Software	\$ 195,390.00	\$ 173,390.00	Servers	\$ 86,400.00	\$ 86,400.00
Storage	\$ 323,679.00	\$ 134,306.00	Storage	incl w/Severs	incl w/Servers
Web	\$ 37,620.00	\$ -	Web	\$ 6,000.00	\$ -
Security	\$ 35,376.00	\$ 75,598.00	Security	\$ 13,800.00	\$ 18,000.00
Desktops	\$ 239,565.00	\$ 152,565.00	Desktops	\$ 18,000.00	\$ 16,500.00
			Arch/Design/Plan	\$ 42,000.00	\$ 42,000.00
			Project Mgmt	\$ 54,000.00	\$ 54,000.00
<b>Estimated Totals</b>	<b>\$ 906,130.00</b>	<b>\$ 595,359.00</b>		<b>\$ 301,400.00</b>	<b>\$ 255,300.00</b>
Project w/Labor Total	\$ 1,207,530.00	\$ 850,659.00			
			Phase 1	\$ 129,000.00	\$ 131,000.00
			Phase 2	\$ 129,000.00	\$ 131,000.00
			Phase 3	\$ 129,000.00	\$ 131,000.00
			Combined Phases	\$ 387,000.00	\$ 393,000.00
Project Total with Phasing	\$ 1,293,130.00	\$ 988,359.00			

## Estimate Yearly Infrastructure Support

	<i>Outsourcing</i>	<i>Insourcing</i>
	<i>support</i>	<i>support</i>
Desktops	\$ -	\$ 45,000.00
Admin/operations	\$ -	\$ 85,000.00
Architect/PM/Engineer	\$ 180,000.00	\$ -
Training	\$ -	\$ 20,000.00
Estimated Totals	\$ 180,000.00	\$ 150,000.00
Total Yearly Support		

These outsourcing costs cover the variety of advanced skill-sets and systems needed by SCAG for supporting the IT infrastructure.

These In-sourcing costs spread over a head-count of two people for daily desktop and operational support.



## Summary

We at TIWI appreciate this opportunity to work with Southern California Association of Governments.

We want to re-iterate to the team reviewing this document the Best Practices definition and that much consideration has been undertaken to produce these results. Best practices at the initial level means taking the time to plan and design your deployment to minimize problems. This includes factors such as facilities, power planning, system installation, and configuration. On the next level, best practices incorporate functional tasks such as performance and system monitoring, system management, and backup. At the highest level, best practices are a set of consistent operational procedures that reduce errors by standardizing upgrades, planned maintenance, and disaster recovery.

In taking delivery of this plan, SCAG is on its way to creating an environment of high availability, reduced complexity, worker efficiency, standards, centralized systems management, security without prevention of productivity, and very importantly...access and publish-ability of the organization's resources like never before.

## Appendix – A

Estimated Pricing Detail and Bid Spec Attached

# Project Manager – Minimum Job Requirements and Skills Desired – Attachment B

## General Knowledge, Skills, and Abilities/Competencies

- **Customer Service** - Works with clients and customers (that is, any individuals who use or receive the services or products that SCAG produces, including the general public, individuals who work in the agency, other agencies, or organizations outside the Government) to assess their needs, provide information or assistance, resolve their problems, or satisfy their expectations; knows about available products and services; and is committed to providing quality results.
- **Decision Making** - Makes sound, well-informed, and objective decisions; perceives the impact and implications of decisions; commits to action, even in uncertain situations, to accomplish organizational goals; causes change.
- **Flexibility** - Is open to change and new information; adapts behavior or work methods in response to new information, changing conditions, or unexpected obstacles; effectively deals with ambiguity.
- **Interpersonal Skills** - Shows understanding, friendliness, courtesy, tact, empathy, concern, and politeness to others; develops and maintains effective relationships with others; may include effectively dealing with individuals who are difficult, hostile, or distressed; relates well to people from varied backgrounds and different situations; is sensitive to cultural diversity, race, gender, disabilities, and other individual differences.
- **Leadership** - Influences, motivates, and challenges others; adapts leadership styles to a variety of situations.
- **Oral Communication** - Expresses information (for example, ideas or facts) to individuals or groups effectively, taking into account the audience and nature of the information (for example, technical, sensitive, controversial); makes clear and convincing oral presentations; listens to others, attends to nonverbal cues, and responds appropriately.
- **Organizational Awareness** - Knows the organization's mission and functions, and how its social, political, and technological systems work and operates effectively within them; this includes the programs, policies, procedures, rules, and regulations of the organization.
- **Problem Solving** - Identifies problems; determines accuracy and relevance of information; uses sound judgment to generate and evaluate alternatives, and to make recommendations.
- **Reasoning** - Identifies rules, principles, or relationships that explain facts, data, or other information; analyzes information and makes correct inferences or draws accurate conclusions.
- **Team Building** - Inspires, motivates, and guides others toward goal accomplishments. Consistently develops and sustains cooperative working relationships. Encourages and facilitates cooperation within the organization and with customer groups; fosters commitment, team spirit, pride, trust. Develops leadership in others through coaching, mentoring, rewarding and guiding employees.
- **Writing** - Recognizes or uses correct English grammar, punctuation, and spelling; communicates information (for example, facts, ideas, or messages) in a succinct and organized manner; produces written information, which may include technical material,

that is appropriate for the intended audience.

## **Project Management Knowledge, Skills, and Abilities/Competencies**

- **Capital Planning and Investment Assessment** - Knowledge of the principles and methods of capital investment analysis or business case analysis, including return on investment analysis.
- **Contracting/Procurement** - Knowledge of various types of contracts, techniques for contracting or procurement, and contract negotiation and administration.
- **Cost-Benefit Analysis** - Knowledge of the principles and methods of cost-benefit analysis, including the time value of money, present value concepts, and quantifying tangible and intangible benefits.
- **Financial Management** - Prepares, justifies, and/or administers the budget for program areas; plans, administers, and monitors expenditures to ensure cost-effective support of programs and policies; assesses financial condition of an organization.
- **Planning and Evaluating** - Organizes work, sets priorities, and determines resource requirements; determines short- or long-term goals and strategies to achieve them; coordinates with other organizations or parts of the organization to accomplish goals; monitors progress and evaluates outcomes.
- **Project Management** - Knowledge of the principles, methods, or tools for developing, scheduling, coordinating, and managing projects and resources, including monitoring and inspecting costs, work, and contractor performance.
- **Quality Assurance** - Knowledge of the principles, methods, and tools of quality assurance and quality control used to ensure a product fulfills functional requirements and standards.
- **Requirements Analysis** - Knowledge of the principles and methods to identify, analyze, specify design, and manage functional and infrastructure requirements; includes translating functional requirements into technical requirements used for logical design or presenting alternative technologies or approaches.
- **Risk Management** - Knowledge of methods and tools used for risk assessment and mitigation of risk.

## **Technical Knowledge, Skills, and Abilities/Competencies:**

- **Technical Competence** - Uses knowledge that is acquired through formal training or extensive on-the-job experience to perform one's job; works with, understands, and evaluates technical information related to the job; advises others on technical issues.

## **Minimum Job requirements:**

Qualified candidates must possess a four-year degree in Business Administration or related field, or the equivalent work experience as well as a minimum of 7-10 years related experience that relates directly to the duties and responsibilities specified.